

## EXHIBIT 22

*Approved by the IEEE-SA Standards Board December 2011*

## **IEEE-SA Standards Board Operations Manual**

The Institute of Electrical and Electronics Engineers, Inc.  
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# IEEE-SA Standards Board Operations Manual

## 1. Introduction

### 1.1 Scope and purpose

The organization and basic procedures of the IEEE-SA Standards Board are covered by the *IEEE-SA Standards Board Bylaws*. The following material supplements the provisions of the *IEEE-SA Standards Board Bylaws*, which shall be the prevailing document in the event of conflict. The purpose of this document is to specify the procedures that shall be followed in the standards-development process in use within the IEEE.

### 1.2 Types of IEEE standards

IEEE standards include but are not limited to:

- Lists of terms, definitions, or symbols, applicable to any field of science or technology within the scope of the IEEE.
- Expositions of scientific methods of measurement or tests of the parameters or performance of any device, apparatus, system, or phenomenon associated with the art, science, or technology of any field within the scope of the IEEE.
- Characteristics, performance, and safety requirements associated with devices, equipment, and systems with engineering installations.
- Recommendations reflecting current state-of-the-art in the application of engineering principles to any field of technology within the scope of the IEEE.

IEEE standards are classified as:

- *Standards*: documents with mandatory requirements.<sup>1</sup>
- *Recommended practices*: documents in which procedures and positions preferred by the IEEE are presented.
- *Guides*: documents in which alternative approaches to good practice are suggested but no clear-cut recommendations are made.

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<sup>1</sup>Mandatory requirements are generally characterized by use of the verb “shall,” whereas recommended practices normally use the word “should.” See the *IEEE Standards Style Manual* for further information.

- *Trial-Use documents*: publications in effect for not more than two years. They can be any of the categories of standards publications listed above. (See 5.7.)

The IEEE standards development process may result in one or more of the following documents:

- *New*: A document that does not replace or modify another standard.
- *Revision*: A document that updates and replaces (i.e., supersedes) an existing IEEE standard in its entirety.
- *Amendment*: A document that adds to, removes from, or alters material in a portion of an existing IEEE standard and may make editorial or technical corrections to that standard.

**NOTE** – An amendment to a standard may be prepared to maintain the state-of-the-art within the standard due to advancing technology or techniques. An amendment facilitates the timely change of an existing IEEE standard prior to its complete revision.

- *Corrigendum*: A document that only corrects editorial errors, technical errors, or ambiguities in an existing IEEE standard. A corrigendum does not introduce new material.

**NOTE** –A typical corrigendum may contain:

- Corrections to equations, tables, or figures, or their associated numbering or citations in the text
- Corrections to technically incorrect sentences or paragraphs
- *Erratum*: A document that contains only grammatical corrections to, or corrections of errors introduced during the publishing process of, an existing IEEE standard. An erratum is based on the comparison of the final balloted version of the standard as compared to the published version.

IEEE Standards Project Editors can assist Sponsors in determining whether an amendment or revision is appropriate.

IEEE Standards may be in one of three states of activity:

- *Developing*: Standards projects that have not yet been approved as standards.
- *Active*: Approved standards that have not been transferred to inactive status.
- *Inactive*: Standards that are no longer being reviewed or assessed for accuracy, relevance to current practices, or further applications; these standards are removed from active status (i.e., these standards are transferred from active to inactive status). (See 9.2).

### **1.3 Standards documentation**

All IEEE-SA draft standards, meeting minutes, Sponsor ballot materials, and Sponsor ballot comments shall be in the English language.

## 2. Related documents

American National Standards Institute, *ANSI Essential Requirements: Due process requirements for American National Standards* (current edition).

*IEEE Standards Association Operations Manual.*

*IEEE-SA Standards Board Bylaws.*

PAR Form.

IEEE-SA Standards Board Working Guide for Submittal of Proposed Standards and Form for Submittal of Proposed Standards. (Known as the IEEE-SA Working Guide for the Submittal of Proposed Standards.)

*IEEE Standards Style Manual.*

*Robert's Rules of Order, Newly Revised* (current edition).

### **3. Abbreviations and acronyms**

**AdCom:** IEEE-SA Standards Board Administrative Committee

**ANSI:** American National Standards Institute

**ASC:** ANSI Accredited Standards Committee

**AudCom:** IEEE-SA Standards Board Audit Committee

**IEEE:** Institute of Electrical and Electronics Engineers

**NesCom:** IEEE-SA Standards Board New Standards Committee

**PAR:** Project Authorization Request

**PatCom:** IEEE-SA Standards Board Patent Committee

**ProCom:** IEEE-SA Standards Board Procedures Committee

**RevCom:** IEEE-SA Standards Board Standards Review Committee

**SASB:** IEEE-SA Standards Board

**SCC:** Standards Coordinating Committee

**SDO:** Standards-Developing Organization

**TC:** Technical Committee

**WG:** Working Group

## **4. IEEE-SA Standards Board and committee procedures**

### **4.1 IEEE-SA Standards Board**

#### **4.1.1 Transaction of business**

Except as specified in the *IEEE-SA Standards Board Bylaws* and these procedures, business of the IEEE-SA Standards Board meeting will be conducted in accordance with the latest edition of *Robert's Rules of Order*.

##### **4.1.1.1 Agenda**

A preliminary agenda for each meeting shall be prepared by the Secretary and sent to the members of the IEEE-SA Standards Board, including liaison representatives, at least two weeks prior to a scheduled meeting. The preliminary agenda shall also be sent to the IEEE-SA Board of Governors (BOG).

A final agenda shall be presented at the time of the IEEE-SA Standards Board meeting. Recommendations to the IEEE-SA Standards Board from the committees of the IEEE-SA Standards Board shall be contained in an agenda item known as a “consent agenda.” Prior to approval of the agenda, any member may request that an item on the consent agenda be removed and considered separately as part of the agenda. Adoption of the consent agenda as modified constitutes approval of all included items by unanimous consent. The balance of the agenda normally includes, in the order shown, the Chair’s report, the Secretary’s report, action items, information and discussion items, committee reports, and new business.

##### **4.1.1.2 Minutes**

The minutes of each meeting of the IEEE-SA Standards Board shall be distributed by the Secretary to voting members, liaison representatives, the IEEE-SA BOG, those present at the meeting, and anyone involved in an action of the IEEE-SA Standards Board within four weeks following the meeting. In reporting an official action of the IEEE-SA Standards Board, the minutes shall, on request of dissenters, contain a record of the dissenting votes. In addition, a listing of resolutions of each meeting of the IEEE-SA Standards Board shall be publicly distributed by the Secretary within four weeks following the meeting.

##### **4.1.1.3 Project Authorization Requests (PARs)**

PARs that have been submitted by Sponsors to the Secretary of the IEEE-SA Standards Board by the established deadline shall be submitted by the Secretary to the New Standards Committee (NesCom) for review. Notification of this distribution shall be given to all members of the IEEE-SA Standards Board. (For additional information on the procedures of NesCom, see 4.2.2.)

##### **4.1.1.4 Submittal of proposed standards**

Proposed standards, together with the required documentation, that have been submitted by Sponsors to the Secretary of the IEEE-SA Standards Board by the established deadline shall be submitted by the Secretary to the Standards Review Committee (RevCom) for review. Notification of this distribution will be given to all members of the IEEE-SA Standards Board. (For additional information on the procedures of RevCom, see 4.2.3.)

##### **4.1.1.5 Confidentiality Statements and Copyright Notices on Communications**

The IEEE-SA Standards Board and its committees operate in an open manner. To that end, no material submitted to the IEEE-SA Standards Board or its committees will be accepted or considered if it contains

any statement that places any burden on the recipient(s) with respect to confidentiality or copyright. Any communication, including electronic mail, containing language with such restrictive wording will not be accepted or considered.

It should be noted that this policy does not apply to IEEE copyrighted materials, such as draft standards, or to materials to or from IEEE counsel appropriately classified as attorney-client privileged. In the event that copyrighted materials are to be incorporated in an IEEE standard, an acceptable copyright release or assignment must be obtained from the copyright owner prior to approval of the standard by the IEEE-SA Standards Board.

#### **4.1.2 Liaison representatives**

The Secretary of the IEEE-SA Standards Board shall circulate the following information to the liaison representatives for review and action:

- a) *Each IEEE Project Authorization Request (PAR) submitted for approval.* The liaison representative is expected to review each request to see if his or her organization has a substantial interest in the project.
- b) *Agenda for each IEEE-SA Standards Board meeting.* This should be reviewed to determine if there is any item on the agenda of substantial interest to the organization. The liaison member should be present, if necessary, to support the interests of the organization.
- c) *Minutes of meetings of the IEEE-SA Standards Board.* This shall include action taken on PARs and draft standards.
- d) *Notice of assignment of a standards project.* When the IEEE-SA Standards Board, on its own initiative, agrees on the need for a standard, a request to develop the standard shall be sent to the liaison representative of the Society and/or the Standards Coordinating Committee (SCC) having primary interest in the subject. The liaison representative is expected to assign the project to the appropriate technical unit as Sponsor for the development of the standards project.
- e) *Status Reports.* The liaison representative shall review any sections of the project reports that may be assigned to his or her organization and notify the Secretary of the IEEE-SA Standards Board of any corrections and revisions. The liaison representative should ensure that action is taken to revise all standards assigned to the Society within ten years of the date of approval. The liaison representative should monitor work being done on all standards projects and report any changes in the status of the standards to the Secretary of the IEEE-SA Standards Board.

### **4.2 Standing committees of the IEEE-SA Standards Board<sup>2</sup>**

#### **4.2.1 Procedures Committee (ProCom)**

This committee shall review proposed modifications to the *IEEE-SA Standards Board Operations Manual* and the *IEEE-SA Standards Board Bylaws* and submit its recommendations for a vote of the IEEE-SA Standards Board. It shall hold meetings as the need requires.

This committee shall review proposed modifications to the *IEEE Standards Style Manual* and submit its comments to IEEE-SA Staff.

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<sup>2</sup>Note that not all committee operations are detailed in this subclause.

#### **4.2.2 New Standards Committee (NesCom)**

This committee shall examine Project Authorization Requests (PARs) and make recommendations to the IEEE-SA Standards Board regarding their approval. Such forms shall be reviewed in detail to make certain that all necessary information has been properly provided.

#### **4.2.3 Standards Review Committee (RevCom)**

This committee acts in an advisory capacity to the IEEE-SA Standards Board by making recommendations on the approval or disapproval of standards submitted for IEEE-SA Standards Board approval or adoption.

Approval or adoption of a standard requires a consensus of RevCom that the requirements of the procedures of RevCom and those of the IEEE-SA Standards Board have been satisfied. Specifically, this means that the final results of the ballot and statements submitted by ballotters who participated in the development of the standard indicate that consensus has been achieved and unresolved negative ballots have been properly considered, together with reasons why the comments could not be resolved.

##### **4.2.3.1 RevCom agenda**

A preliminary agenda for each RevCom meeting shall be prepared by the Secretary of the IEEE-SA Standards Board or a designated person and distributed to RevCom members at least 30 days<sup>3</sup> prior to a scheduled meeting of RevCom. Included with the agenda shall be a list of all proposed standards to be presented to the IEEE-SA Standards Board for approval. At the same time the agenda, without supporting documentation, shall be sent to all members of the IEEE-SA Standards Board, liaison representatives, and other organizations and persons. The agenda is to be sent to all persons and organizations that have expressed an interest in the standards activities of the IEEE.

##### **4.2.3.2 Review of draft standards**

The RevCom Administrator shall distribute a copy of each proposed standard to the members of RevCom, together with the submittal form and any other pertinent information, for review. An IEEE-SA Standards Board member or the liaison representative may request a copy of the proposed standard from the RevCom Administrator. RevCom members are responsible for reviewing the documents and submitting comments to the RevCom Administrator. All comments and objections with reasons shall be distributed by the RevCom Administrator to RevCom members and the liaison representative of the Sponsor.

All requests for approval of a standard shall be reviewed by RevCom to ensure that the submittal is complete and that appropriate IEEE procedures are followed completely and correctly (see the IEEE-SA Working Guide for Submittal of Proposed Standards).

Examples of some of the points that must be carefully analyzed are given in the following paragraphs:

- *Title of Document.* The title on the draft document and submittal form shall be within the scope as stated on the most recently approved PAR, or action(s) shall be taken to ensure this.
- *Coordination.* Mandatory coordination comments shall be addressed. If the Sponsor believes that satisfying specific mandatory coordination comments will impede the utility of the draft standard, appropriate documentation of this position shall be presented to RevCom.

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<sup>3</sup>Throughout this document, the term ‘days’ shall mean calendar days.

- *Ballot Summary.* A ballot summary of the vote of the members is required, e.g., showing the classification of members of the balloting group and including comments accompanying unresolved negative ballots. For complete details, see 5.4.1 and 5.4.3.
- *Balloting Group.* The balloting group shall be formulated according to 5.4.1.
- *Classification of Balloting Body.* Classification of the balloting body shall be in accordance with 5.4.1.
- *Comment Responses.* All comments shall receive consideration and response in accordance with 5.4.3.

#### **4.2.3.3 Sponsor representation at RevCom**

At the suggestion of the Secretary, the Sponsor may send a representative to the RevCom meeting at which a proposed standard having unresolved negative comments is to be reviewed. The Secretary shall ensure that the representative receives a copy of all comments, objections, and negative RevCom votes with reasons. The Sponsor representative shall be given an opportunity to discuss them at the meeting.

#### **4.2.3.4 Proponents and objectors to actions before RevCom**

Proponents and objectors to actions before RevCom may attend meetings to present their views. When negative comments are received in advance from RevCom members, the Sponsor shall be invited to send a representative(s) to the RevCom meeting to answer questions and help resolve issues.

#### **4.2.3.5 Dissenting opinions**

At the request of any member of RevCom, a recommendation may be accompanied by a statement in disagreement with the recommendation. While there seldom is a “minority” position, the IEEE-SA Standards Board shall be informed of significant controversies.

#### **4.2.4 Audit Committee (AudCom)**

This committee shall make routine reviews and inspections to assure that each standards-developing entity, through its Sponsor and Working Group policies and procedures (P & P), is adhering to the procedures described in the *IEEE-SA Standards Board Bylaws* and the *IEEE-SA Standards Board Operations Manual*. It will make recommendations as appropriate to advise the standards-developing entities of changes that are needed. The committee shall periodically issue reports when requested by the IEEE-SA Standards Board, summarizing its findings and making recommendations as appropriate for Standards Board action.

The committee shall develop sets of basic Sponsor and Working Group operating procedures for standards development and shall use such operating procedures as a baseline when performing audits of P & P.

##### **4.2.4.1 AudCom review of Sponsor P & P**

AudCom recommends to the IEEE-SA Standards Board the following actions concerning IEEE-SA Sponsor P & P:

- Accepted
- Not accepted
- Visibly under development

A Sponsor's P & P shall be determined by AudCom to be visibly under development or accepted by AudCom before performance of any standards work (including but not limited to: PAR actions, Sponsor ballot actions, etc.) by that Sponsor is authorized by the IEEE-SA Standards Board to commence.

After a Sponsor's P & P have been submitted to AudCom and an AudCom member is assigned as mentor to review the document, the P & P may be determined by AudCom to be visibly under development. The P & P will remain in such a state until AudCom is either satisfied that they are complete and acceptable or that the Sponsor is no longer responsive to AudCom and that the P&P are not acceptable.

AudCom will ensure that each Sponsor has based its P & P on the appropriate Sponsor procedures (e.g., individual, entity, SCC Type 1, or SCC Type 2) available from the IEEE-SA.

Sponsor P & P shall be subject to review by AudCom every five years to ensure currency. However, if a Sponsor revises its P & P prior to its next scheduled AudCom review, the Sponsor shall immediately submit its revised P & P to AudCom for review and acceptance.

The IEEE Standards Sponsor P & P document accepted by AudCom shall be the official policies of that Sponsor and shall reside online on the IEEE-SA Standards Board AudCom website. No other copy shall be designated as the official copy. Links to the IEEE-SA Standards Board AudCom website are encouraged.

#### **4.2.4.2 AudCom review of Working Group P & P**

It is the responsibility of the Sponsor (see 5.1.2) to approve the P & P of its working groups involved in the technical development work of a standard. However, at any time, AudCom may-select a working group on which to conduct a WG P & P audit, from the various working groups that the Sponsor has active at the time. At least one of a Sponsor's WG P & P shall be subject to review by AudCom every five years to ensure currency. AudCom will conduct the review based on comparison to the then-current baseline WG P & P available from IEEE-SA.

AudCom will review the WG P & P of the selected working group and, if no issues are found, will report this to the IEEE-SA Standard Board. If issues are identified with the selected WG P & P, AudCom will suggest revisions. AudCom may also require review of additional WG P & P of other working groups for the Sponsor. If issues are not resolved in a reasonable time, or significant issues are found among the WG P & P of several working groups, AudCom may recommend to the IEEE-SA Standards Board that the Sponsor's Working Group P & P be considered "not accepted", and that Sponsor standards development activities be stopped. If issues exist but progress is being made, AudCom may recommend to the IEEE-SA Standards Board that the Sponsor's Working Group P & P be considered "visibly under development".

Stopping of standards development activities includes PAR submissions, Sponsor ballot activities, etc.

#### **4.2.5 Patent Committee (PatCom)**

This committee reviews patent letters of assurance and other patent information submitted to the IEEE Standards Department. It examines issues brought to its attention regarding IEEE Standards development and patents, and makes recommendations as appropriate.

#### **4.2.6 Continuous processing of IEEE-SA Standards Board and committee agenda items**

In order to reduce the time involved in standards development, the IEEE-SA Standards Board and its committees may use continuous processing through electronic technologies to consider appropriate agenda items. Each agenda item to be considered under this methodology shall be carefully appraised as to its suitability for this process. The IEEE-SA Standards Board and its committees should establish means for

continuous processing according to their unique needs. These methods are publicly available by contacting the Secretary of the IEEE-SA Standards Board.

Any votes taken by the IEEE-SA Standards Board during continuous processing are subject to the provisions stated in subclause 5.1 of the *IEEE-SA Standards Board Bylaws*.

### **4.3 Forming a Standards Coordinating Committee (SCC)**

The IEEE-SA Standards Board will consider petitions from persons who outline the desirability of an SCC type 1 or SCC type 2, defined in subclause 4.3.1 of the *IEEE-SA Standard Board Bylaws*.

#### **4.3.1 Notification of affected IEEE Societies and Councils**

A proposal to create a new SCC type 1 or SCC type 2 or to change the scope of an existing SCC shall first be submitted to all IEEE Society/Council Presidents whose scopes of activity are related to the program of work to be covered by the proposed SCC or affected by a proposed change in the scope of an existing SCC.

##### **4.3.1.1 New SCC**

For proposed new SCCs, the notification shall include

- a) A scope of work for the SCC.
- b) Supporting material demonstrating the need for and feasibility of the SCC.
- c) A statement explaining why the SCC should undertake the sponsorship of standards in a particular subject area rather than the current committees of IEEE Societies or Councils.
- d) A nominee for chair, including a statement of his or her willingness to serve.
- e) A budget that estimates annual resource requirements and identifies sources of revenue to support the activity.
- f) An opportunity for the IEEE Society/Council to sponsor the work.

Notified Presidents shall be requested to respond to the notification indicating whether the IEEE Societies/Councils they represent would be willing to sponsor the work. The response date should be set to be prior to the proposed submission to the IEEE-SA Standards Board. A period of at least three months should be given to respond to the notification.

##### **4.3.1.2 Change in scope of an existing SCC**

The notification for changes in the scope of an existing SCC shall include

- a) The proposed scope change.
- b) Supporting material demonstrating the need for and feasibility of the change.
- c) Recommendations for any changes in current sponsorship.
- d) Any change in budget and other resource requirements.

Notified IEEE Society/Council Presidents shall be requested to respond to the notification. The response should be set to be prior to submission of the proposed scope change to the IEEE-SA Standards Board. A period of at least three months should be given to respond to the notification.

#### **4.3.2 Proposal to the IEEE-SA Standards Board**

A proposal to create a new SCC type 1 or SCC type 2 or to revise the scope of an existing SCC shall be submitted to the IEEE-SA Standards Board. The proposal shall include all of the information in items a) through f) of 4.3.1.1 for new SCCs and in items a) through d) of 4.3.1.2 for changes in scope of an existing SCC that was submitted to the IEEE Society/Council Presidents. It shall also include documentation of any responses or indication of a lack of response from IEEE Society/Council Presidents.

Consideration of proposals for a new SCC or a change in scope of an existing SCC by the IEEE-SA Standards Board shall take no longer than six months without notification to the submitter.

In considering approval of a new SCC, the IEEE-SA Standards Board shall evaluate the need for and feasibility of the proposed SCC. If the IEEE Societies/Councils have indicated a willingness to serve as the standards Sponsor, the IEEE-SA Standards Board will evaluate their expertise and breadth of knowledge to sponsor the work.

For changes in an existing SCC scope, the IEEE-SA Standards Board shall evaluate the appropriateness of the scope change and the feedback received from the IEEE Society/Council Presidents.

If the formation or revised scope of the SCC is approved, the Chair of the IEEE-SA Standards Board shall formally notify the IEEE Society/Council Presidents and invite their participation by naming member(s) to the SCC from the various IEEE Societies/Councils. Notification shall also be sent to the members of the IEEE-SA BOG and announced in appropriate media.

### **4.4 Organization of SCCs**

#### **4.4.1 Membership**

Membership in the IEEE-SA is encouraged for all SCC members.

#### **4.4.2 Officers of an SCC**

Each officer shall be an IEEE member of any grade except Student grade and shall be a member of the IEEE-SA.

The IEEE-SA Standards Board Chair shall appoint the chair of each SCC. The appointment shall be for the calendar year, but the SCC Chair may, at his or her discretion, serve until a successor is appointed.

Other SCC officers (e.g., vice chair and secretary) are chosen as provided in the approved SCC Operating Procedures.

The IEEE-SA Standards Board Chair has the authority to remove an officer of an SCC.

#### **4.4.3 Membership in an SCC type 2**

The members of an SCC type 2 and its subcommittees are appointed by one or more of the following:

- a) The SCC Type 2 Chair,

- b) An IEEE Society,
- c) The IEEE-SA Standards Board.

#### **4.5 Responsibilities of SCCs**

The chair of an SCC (types 1 and 2) shall submit a written report each year to the IEEE-SA Standards Board for approval. This report should contain the scope, activities, budget and expenses, and meeting schedules, along with the membership roster. The roster shall indicate the IEEE membership status and society affiliation of each member. The SCC chair may also be asked to give an oral report to the IEEE-SA Standards Board every three to four years.

Interested Societies of the IEEE may designate members to an SCC who then function as official representatives of the Society. The IEEE-SA Standards Board may designate representatives of outside organizations as additional members.

Each member of an SCC who is an official representative of a Society, technical committee, or outside organization may have a single designated alternate to act on behalf of the member in his or her absence. Alternates for other members shall not be permitted.

An SCC may establish subcommittees as necessary to perform its function. The formation of non-technical (e.g., administrative) subcommittees requires prior approval by the IEEE-SA Standards Board.

#### **4.6 Disbanding a Standards Coordinating Committee (SCC)**

The IEEE-SA Standards Board should consider the disbandment of an SCC if any of the following applies:

- The SCC leadership is nonresponsive to requests for annual reports, minutes, or status.
- The membership or activity of the SCC is no longer representative of its stated scope.
- The SCC's P & P are found to be deficient or out of date and the SCC does not initiate corrective action.
- There is no current SCC chair and a suitable replacement chair cannot be found.
- The requirement to submit a written, annual report to the IEEE-SA Standards Board is not met.
- There have been no meetings of the SCC or any of its subcommittees within the last 12 months and none are scheduled.
- Coordination is no longer needed and an IEEE Society/Council is willing to assume responsibility for the SCC's standards.
- The SCC requests dissolution.

## 5. Standards development

### 5.1 Sponsor

Sponsors are defined in subclause 5.2.2 of the *IEEE-SA Standards Board Bylaws*.

#### 5.1.1 Responsibilities of the Sponsor

The Sponsor shall be responsible for the development and coordination of the standards project, and for supervising the standards project from inception to completion. The Sponsor also shall be responsible for the maintenance of standards after their approval by the IEEE-SA Standards Board. As part of this responsibility, each Sponsor shall operate in accordance with a written set of policies and procedures (P & P) that have been accepted by the IEEE-SA Standards Board. Such P & P shall not be in conflict with the *IEEE-SA Standards Board Operations Manual*. Sponsors should note that there are model operating procedures (e.g., individual, entity, SCC Type 1, or SCC Type 2) available for use by the Sponsor.

If a Sponsor's P & P has been in force for five years and the Sponsor determines that its standards activities should remain active, the Sponsor shall submit its P & P, or an extension request, to the AudCom Administrator. AudCom will make a recommendation to the IEEE-SA Standards Board whether or not to accept its P & P or the extension. An extension request may be granted for one or more years.

If the Sponsor does not submit its Sponsor P & P or an extension request, and the P & P has reached the deadline authorized in the P & P approval letter or a previous extension approval letter, the Sponsor P & P shall be subject to administrative withdrawal.

In the case of a Sponsor that is a committee of an IEEE Society, the Society may develop a common set of P & P for standards development that is applicable to all Sponsors in that Society. Individual Sponsors within the Society may have specific P & Ps in addition, but these shall not be in conflict with the Society P & P. The P&P for the Sponsor shall define the process by which the Sponsor handles appeals (see subclause 5.4 of the *IEEE-SA Standards Board Bylaws* and 5.8).

#### 5.1.2 Duties of the Sponsor

Supervision of a standards project by the Sponsor includes the following mandatory requirements:

- a) Submit a properly completed Project Authorization Request (PAR) for IEEE-SA Standards Board approval within six months of the first decision to initiate the project. Forms and information may be obtained from the NesCom Administrator (see 5.2).
- b) After approval of the project, work with the IEEE Standards Department Staff to give notice of the project in appropriate publications and to appropriate entities, for the purpose of soliciting an expression of interest in the work of the sponsoring committee.
- c) Ensure that mandatory coordination requirements are accomplished (see 4.2.3.2 and 5.4.4).
- d) Organize the technical development work on the standard.
- e) Notify persons who have expressed interest in the time and the place of meetings as specified in the P & P of the Sponsor (see 5.1.1).
- f) Ensure that all meetings involving standards are open to all interested parties.

- g) Conduct the standards ballot in accordance with these procedures.
- h) Submit the proposed standard together with the submittal form to the IEEE-SA Standards Board.
- i) Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects.
- j) Without exception, the Sponsor shall ensure the submission of an annual financial report(s) for the operation of the Sponsor and all of its standards development committees (e.g., working groups, task groups). Those groups operating without treasury are required to submit an annual declaration thereof via the report (see 5.3.6).
- k) Monitor standards developing committees for signs of dominance by any single interest category, individual, or organization. If dominance is suspected, the Sponsor shall promptly notify the IEEE-SA Standards Board and shall immediately address the concern with the standards developing committee leadership.
- l) If a Working Group (WG) was created for technical development work on a standard, ensure that a written set of WG policies and procedures (P & P) is created and approved by the Sponsor. Such P & P shall not be in conflict with the *IEEE-SA Standards Board Operations Manual*. Sponsors should note that IEEE-SA Standards Board maintains a baseline WG P & P, and may occasionally request to review a Sponsor's WG P & P for alignment.

### **5.1.3 Statements to external bodies**

Each IEEE Standards Sponsor shall have policies and procedures in place concerning the creation and handling of public statements prior to sending any such statements in any format to any body other than the IEEE Standards Association. These procedures should state a means for developing and approving the Sponsor statement and a methodology for presentation of those statements. These procedures shall also conform both to the IEEE-SA procedures as administered by the IEEE-SA Board of Governors (BOG) and set forth in subclause 6.5 of the *IEEE Standards Association Operations Manual* and to the rules in Section 15 of the *IEEE Policies*.

Each statement shall clearly identify the group creating this statement in its opening paragraph, and shall include in that paragraph, or a footnote thereto, the exact sentence that “this document solely represents the views of *name of group* and does not necessarily represent a position of either the IEEE or the IEEE Standards Association.” If the public statement addresses safety, that statement shall be reviewed and approved in writing by IEEE legal counsel prior to issuance.

Upon issuance of all such public statements, electronic copies shall be sent to the Secretary of the IEEE-SA Standards Board and to the Secretary of the IEEE-SA BOG.

If the Sponsor wants to issue an entity position statement on standards that represents the viewpoint of the IEEE Standards Association, the rules in the *IEEE Standards Association Operations Manual* shall be followed. Approval from the IEEE-SA BOG shall be obtained prior to a Sponsor requesting another IEEE entity (as defined in Section 15 of the *IEEE Policies*) to offer a position statement on a standards matter.

### **5.1.4 Standards publicity**

#### **5.1.4.1 Press releases**

Sponsors are encouraged to prepare press releases to promote their activities. IEEE Standards staff is available to assist in the preparation of press releases.

Copies of all press releases developed by IEEE Standards Sponsors shall be submitted to the Secretary of the IEEE-SA Standards Board. Copies may be supplied electronically. If the press release has been made available on a public website, the URL shall be supplied as well. Press releases may be made available on the IEEE Standards website, or links to existing websites may be provided to aid users in locating appropriate standards press releases.

#### **5.1.4.2 Other forms of publicity**

Sponsors are encouraged to use all means possible to promote their standards and standards activity. IEEE Standards staff is available to assist in standards promotion.

Copies of any articles from Sponsors concerning an IEEE standards activity submitted to publications shall be submitted to the Secretary of the IEEE-SA Standards Board. Copies may be supplied electronically. If the article has been made available on a public website, the URL shall be supplied as well. Articles may be made available on the IEEE Standards website, or links to existing websites may be provided to aid users in locating appropriate standards promotional material.

### **5.2 Project authorization**

No formal activity shall take place after six months from the day of the first meeting of the working group without formal submittal of a PAR to the IEEE-SA Standards Board and assignment of a project number (see 5.1.2). Only the NesCom Administrator has the authority to assign project numbers (see the IEEE-SA Project Numbering Policy).

The Sponsor shall submit the original signed copy of the PAR to the NesCom Administrator. This original PAR shall be submitted prior to the submittal deadline specified. For the first three quarterly meetings of the year, the submittal deadline shall be at least 40 days before the meeting of the IEEE-SA Standards Board. For the last quarterly meeting of the year, the submittal deadline shall be at least 50 days before the meeting of the IEEE-SA Standards Board. The individual signing the PAR shall be an IEEE-SA member.

At the time of PAR submission, the Sponsor shall state the type of balloting group that will be formed to approve or disapprove the standard (see 5.4.1).

Any PAR that includes a change in sponsorship shall be submitted to the NesCom Administrator, accompanied by letters of agreement from both the Sponsor ceding sponsorship and the Sponsor accepting sponsorship.

After the PAR has been approved by the IEEE-SA Standards Board, the PAR form becomes an important part of the project file for the standard and is referred to at the time that a standard is submitted for IEEE-SA Standards Board approval. It is important for standards-writing committees to examine the approved PAR periodically in order to make certain that its information is current as shown on the form. This will minimize delays in obtaining approval of final submittals.

For standards and their amendments that may be submitted to international standards-developing organizations, the project chair should supply a coordination plan to the IEEE-SA Standards Board during the draft development of the standard that will illustrate the plan they will follow to coordinate the necessary multiple approvals.

If a standards project has not been completed by the four-year deadline authorized in the PAR and the Sponsor determines that the project should remain active, the Sponsor shall complete the IEEE-SA Standards Board Extension Request Form and submit it to the NesCom Administrator. NesCom will make a recommendation to the IEEE-SA Standards Board whether or not to approve the extension to the PAR. A PAR extension may be granted for one or more years.

If the Sponsor does not submit an IEEE-SA Standards Board Extension Request Form and the standards project has reached the deadline authorized in the PAR approval letter or a previous extension approval letter, the standards project shall be subject to administrative withdrawal.

### **5.3 Standards development meetings**

#### **5.3.1 Objective**

The objective of IEEE standards development meetings is to develop and produce IEEE standards documents. All IEEE Standards meeting participants are encouraged to produce standards that address the technical needs of their industry and that are feasible, timely, and of high quality.

#### **5.3.2 Standards Sponsors**

Sponsors are responsible for managing and hosting meetings whose purpose is to facilitate development of IEEE Standards. These series of meetings operate on a break-even basis and are not operated to generate a profit in the long term. The following subclauses specifically address this additional role of managing and hosting standards development meetings.

#### **5.3.3 Standards development meetings**

Standards development meetings are to be conducted consistent with the principle of openness. Working group participants may include members and non-members when the requirements to gain membership are specified in Sponsor or working group P & P. A 'meeting' includes any convening for which notice was required to be given or for which membership-credits or other participation rights are either earned or exercised. Meetings may be in-person or may be via electronic means, as appropriate.

While a WG may maintain its own participants list to track membership status, the authoritative list of participants is maintained in an IEEE-SA database.

##### **5.3.3.1 Disclosure of affiliation**

Each participant's affiliation shall be disclosed at any working group or project meeting. The chair or the chair's delegate shall inform the meeting of the requirement for disclosure of affiliation (see 5.2.1.5 of the *IEEE-SA Standards Board Bylaws*). This shall be via a sign-in (e.g., sign-in sheet, electronic sign-in, verbal disclosure, or electronic communication) that provides for disclosure of employer and any other affiliation, a reminder of the definition of affiliation, and possible penalties for non-compliance.

Whenever an individual is aware that the ownership of his or her employer or other affiliation may be material to the process, or when the Sponsor or the IEEE-SA Standards Board requests, that individual shall also declare the "ultimate parent entity" of their affiliation. The ultimate parent entity is an entity that directly or indirectly, through one or more intermediaries, controls the entity identified as the individual's affiliation. For the purposes of this definition, the term "control" and its derivatives, with respect to for-profit entities, means the legal, beneficial or equitable ownership, directly or indirectly, of more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. "Control" and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity.

The minutes of each working group or project meeting shall record a list of attendees and the disclosed affiliation of each attendee.

##### **5.3.3.2 False or misleading disclosure**

A meeting attendee who fails to disclose affiliation shall not accrue any membership rights, including rights of or towards voting membership, until such disclosures have been made. The chair shall review the adequacy of disclosures. Failure to disclose affiliation, or materially false or misleading disclosure of affiliation, shall result in loss of membership privileges and may also result in loss of other participation privileges within the IEEE-SA for such participants and any affiliated entities.

The Sponsor of the project shall, when appropriate, review the adequacy of disclosures and, if deemed inadequate, may direct corrective action(s). In the absence of effective corrective action(s) by the Sponsor, the IEEE-SA Standards Board may impose further corrective action(s).

### **5.3.3.3 Job recruiting**

Job recruiting at IEEE Standards meetings is inappropriate and is actively discouraged. However, posting of notices of job opportunities by employers and of notices of jobs sought may be permitted at IEEE Standards meetings only if approved by the IEEE Standards Sponsor.

### **5.3.3.4 Audio recording, video recording, and photography**

IEEE Standards Sponsor committees may apply restrictions on the use of audio recording, video recording, or photography equipment where they may impede free discussion, where they compromise commercial value, or where they are disruptive. Such restrictions should be clearly identified, in advance, to attendees.

### **5.3.3.5 Press attendance**

Normally, individuals from the press are not encouraged to attend standards meetings. If the press is in attendance, the chair should announce press attendance. Normal meeting fees are not expected to be waived for the press.

### **5.3.3.6 Commercial activities**

Exhibits of vendor products, distribution of literature, sales presentations, and similar activities are discouraged at standards meetings as they detract from and compete with the normal standards development process.

## **5.3.4 General approvals, endorsements, and notifications**

All Sponsors of IEEE standards development meetings with per-meeting budgets or expenses for the IEEE of US \$25,000 or greater shall submit forecasts of their meetings [including the location (if known), approximate date, and anticipated subject matter] to the IEEE-SA BOG at least one year in advance on an annual basis. Such forecasts shall be kept current.

Because of its unique membership categories (e.g., entities), the IEEE-SA may enter into hosting arrangements with for-profit enterprises for its meetings, provided these arrangements do not violate the not-for-profit status of the IEEE.

### **5.3.5 Meeting budgets**

The IEEE-SA BOG and the IEEE Society, where applicable, shall receive the budgets for all IEEE standards development meetings for which the budgeted meeting income or expenses for the IEEE exceeds US \$25,000 per meeting.

For these meetings, the following actions shall be taken:

- The budget should provide all needed financial information and be consistent with analysis of the attendance and financial results of any preceding meeting on the same subject. Income, expenses, and reserve funds shall be reported to the IEEE-SA BOG annually, but no later than six months after the close of the fiscal year. All budgets shall be based on non-deficit expectations. However, if a series of meetings are organized, the series should be on a self-sustaining basis. The Sponsor committee, for sufficient reasons, may elect to budget a particular meeting on a deficit basis.
- Such a deficit budget will be approved if properly related to the total fiscal picture of the Sponsor committee.
- The Sponsor committee assumes the entire risk of deficit; i.e., if a deficit is incurred in the operation of a meeting, that deficit is chargeable against the Sponsor committee. Conversely, if a surplus results from the operation, the surplus will be credited to the Sponsor committee.
- If substantial financial changes are made to previously approved budgets, a revised budget should be submitted.

For IEEE Standards meeting budgets where the budget or expenses for the IEEE are greater than US \$25,000, failure to submit a budget may result in action from the IEEE-SA BOG.

For IEEE Standards meetings operating without a budget or with a minimal budget, the operating procedures of the committee shall apply.

An IEEE Standards Sponsor may choose to set a meeting fee as a means of offsetting the costs of meeting administration, logistics, and other similar costs of standards development.

### **5.3.6 Annual financial report**

All Sponsors are required to submit an annual report (IEEE Form L50-S) detailing financial activity for the previous fiscal year. The report will be due within three months of the completion of the previous fiscal year. Failure to submit this report shall result in action from the IEEE-SA Standards Board. Actions shall include, but not be limited to, suspension of all activities until the report is filed and accepted as complete.

### **5.3.7 Bank accounts**

All IEEE standards development committees that have or intend to have bank accounts shall use the IEEE Concentration Banking Program as their only bank account. It is the policy of the IEEE that all bank accounts provide for the signatures of at least two volunteers (who shall be IEEE Member grade or higher in good standing).

Bank accounts shall be closed six months after the standards development activity has ceased and if further projects are not planned. Closing bank statement(s) shall be submitted to the IEEE-SA BOG and the relevant IEEE Society with the final budget report.

### **5.3.8 Auditing of finances**

All IEEE Standards Sponsor committees with actual or budgeted income or expenses of US \$100,000 or more per year shall be audited by a professional independent source, outside the sponsoring organizational unit. The IEEE-SA BOG may select an outside accounting firm, another fully qualified resource, or the IEEE Operations Audit Department to arrange for and perform the audit. The selection of such auditors should avoid any conflict of interest with members of the relevant IEEE Standards Sponsor committees.

IEEE Standards Sponsor committees with more than US \$25,000 but less than US \$100,000 in income or

expenses per year will be audited on a rotational basis. The IEEE Operations Audit Department will schedule and arrange for the audits of these Standards activities. For those committees not scheduled for an Operations Audit review in a given year, an informal review should be conducted by a committee composed of individuals who have no direct or indirect responsibility for the financial transactions of the committee.

IEEE Standards meetings with a non-IEEE organizational unit, when the IEEE share of annual revenues or expenses is expected to exceed US \$100,000 per year, are required to participate in the audit process. If the cooperating organizational units agree to the audit but refuse to share in the audit fee, the IEEE Sponsor will be assessed an audit fee of no more than 50% of the standard fee rate.

All audit fees, as determined by the IEEE Operations Audit Department, shall be incorporated in the budgets of IEEE Standards Sponsor committees and displayed as a separate line on budget reports.

The IEEE Operations Audit staff will assure that committee financials are audited in accordance with the guidelines developed for this purpose.

### **5.3.9 Closings**

All IEEE standards development committees with meeting income or expenses of US \$25,000 or greater per meeting shall complete the following tasks within six months of cessation of the IEEE standards development activities:

- Close bank accounts;
- Distribute any surplus as directed by the IEEE-SA BOG;
- Complete final financial reports;
- Complete the audit, if required.

Many of these tasks are required by United States Internal Revenue Service regulations and by the audit process. Documentation concerning these tasks shall be reviewed by the IEEE-SA BOG and the relevant IEEE Society, where applicable.

### **5.3.10 Legal compliance and other issues**

#### **5.3.10.1 Compliance with laws**

All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws. In the course of IEEE standards development, participants shall not engage in fixing product prices, allocating customers, dividing sales markets, or other conduct that violates antitrust or competition laws.

#### **5.3.10.2 Discussion of litigation, patents, and licensing**

No discussions or other communications regarding the following topics shall occur during IEEE-SA working group standards-development meetings or other duly authorized IEEE-SA standards-development technical activities:

- The status or substance of ongoing or threatened litigation
- The essentiality, interpretation, or validity of patent claims

- Specific patent license terms or other intellectual property rights, other than distribution of Accepted Letters of Assurance as permitted under the IEEE-SA patent policy (see 6.2 of the *IEEE-SA Standards Board Bylaws*)

### **5.3.10.3 Discussion of relative cost/benefit analyses**

When comparing different technical approaches in IEEE-SA standards development technical activities, participants may discuss the relative costs (in terms, for example, of percentage increases or decreases) of different proposed technical approaches in comparison with the relative technical performance increases or decreases of those proposals. The relative costs may include any potentially Essential Patent Claims, but not the price at which compliant products may or will be sold. Technical considerations should be the main focus of discussions in IEEE-SA standards development technical activities.

### **5.3.11 Naming meetings and use of IEEE logo**

This policy applies to naming all IEEE Standards Sponsor activities.

- The meeting title shall include “IEEE” for identification purposes.
- The name of a meeting shall be used in all publicity and all related material pertaining to the meeting, including electronic mail.

IEEE Standards Sponsor activities shall have the IEEE logo on all promotional material and publications.

### **5.3.12 Contracting**

IEEE Standards meetings may require contracts for various services. These services include but are not limited to hotel services and meeting management services.

The IEEE Standards Sponsor committee or designee shall review all contracts connected with running a meeting. Contracts are subject to limitations as defined in IEEE Policy 12.6 and subclause 5.1.3 of the *IEEE Standards Association Operations Manual*.

All meeting contracts shall be maintained in a readily accessible file at the IEEE Standards Department for audit purposes. It is the responsibility of the IEEE Standards Sponsor chair or working group chair to send a copy of the contract, when executed, to the IEEE Standards Department promptly for retention within the IEEE.

In signing a contract, competitive bidding procedures shall be used whenever practical. If competitive bidding is not practiced, the IEEE Standards Sponsor committee or working group chair shall be prepared to provide justification.

### **5.3.13 Insurance**

All Sponsor committees of IEEE Standards meetings with annual meeting budgets or expenses for the IEEE of US \$25,000 or greater are responsible for obtaining necessary insurance coverage for their meetings if this is not covered in established contracts with meeting facilities. The IEEE can provide such coverage as stipulated in the *IEEE Financial Operations Manual*.

### **5.3.14 Tax liability**

The IEEE is a non-profit organization, incorporated in New York State, USA. IEEE holds standards meetings throughout the world, and the legal and tax requirements can vary greatly for each site. In the

United States, the IEEE is exempt from paying income taxes and is also exempt from paying sales taxes on purchases in some states. Some states require sales taxes to be collected on-site for sales of books and other items. Order taking can be done without consideration of sales taxes.

Outside of the USA, there are other sales taxes that may be required to be collected at IEEE Standards meetings for on-site sales, such as Value Added Tax (VAT) and the Goods & Services Tax (GST) in Canada. It may be required to collect such taxes on meeting fees. There are also exemptions from paying VAT and GST and the rules are unique by country. In most countries, but not all, the IEEE is exempt from paying income taxes.

Because the laws and requirements of each country, state and province vary, it is very important that each IEEE Standards Sponsor committee contact the IEEE Tax Compliance Office ([tax-staff@ieee.org](mailto:tax-staff@ieee.org)) to find out the specific legal and tax requirements to operate at their site. This must be done very early in the planning stages of the conference; if planned properly, large savings may result.

Financial support by industry of IEEE-SA Standards meetings and events is acceptable. All such support shall not violate the not-for-profit status of the IEEE.

## **5.4 Standards ballot by the Sponsor**

A balloting group shall be one of the following:

- Individuals with voting privileges
- Persons with voting privileges who are of any category other than individual

All IEEE Standards Association Sponsor ballots shall be conducted by the IEEE Standards Ballotting Center.

All IEEE Standards Association Sponsor ballots shall be conducted by electronic means.

IEEE-SA shall maintain a single authoritative database for the list of individual or person participants related to Sponsor balloting. A request for a Sponsor ballot group membership list shall be submitted to the Sponsor Chair. The Sponsor Chair shall then forward such request to the IEEE-SA staff liaison for that Sponsor. The IEEE-SA staff liaison shall fulfill the request if the standard has been approved or upon its approval. For individual-based balloting, the supplied membership list shall consist of each member's name, affiliation, and interest category. For entity-based balloting, the supplied membership list shall consist of each entity's name, the entity's designated primary voting representative (and, if designated, the alternate voting representative), entity affiliation, and entity interest category.

### **5.4.1 Balloting group**

The balloting group shall meet the criteria in subclause 5.2.2.3 of the *IEEE-SA Standards Board Bylaws*. Balloting group members have an obligation to respond during the balloting period; failure to return a ballot may disqualify the balloter from participation in future balloting groups. The balloting group shall provide for the development of consensus by all interests significantly affected by the scope of the standard. This is achieved through a balance of such interests in the balloting group membership. Balance is achieved by not permitting any single interest category to comprise more than one-third of the Sponsor balloting group.

No balloter shall have more than one vote.

Balloters are required to classify their relationship to the balloting group relative to the scope of standards activity (for example, producer, user, and general interest). Where appropriate, additional classifications,

such as “testing laboratory” or “academic,” may be added by the Sponsor. This decision should be based on the effect the standard may have on participants not already recognized by the primary classifications. Individuals classify themselves based on their technical background, which may be related to their employment, job functions, or experience. IEEE-SA entity balloters are classified based on their entity interest as it relates to the scope of the standards project (for example, producer, consumer, general interest). No single classification (interest category) is permitted to constitute more than one-third of the balloting group membership. Care shall be taken to ensure that all classes of interest are represented to the extent possible.

It is desirable to have representation of the materially interested and affected parties when reviewing the balance of the balloting group. Sponsors shall ensure balance prior to conducting a Sponsor ballot. Balloting groups of individuals should have at least 10 members to ensure adequate balance.

Interested or affected persons who pay the appropriate fees associated with voting privileges may join the balloting group for a specific standards project. Once the ballot has begun, the balloting group is closed to additional participants. Even if IEEE-SA membership status changes during the balloting period or recirculation period, there shall be no change to the voting status of the baloter with respect to that ballot.

Persons may also purchase the ballot draft for information only. Such persons may submit comments on the draft within the balloting period. However, they may not vote to approve, disapprove, or abstain on the proposed standard, nor are they entitled to receive any material other than the revised draft and responses to their comments.

Comments from persons who are not members of the balloting group shall be given due consideration and an appropriate response.

#### **5.4.1.1 Balloting group made of entities**

Several distinct rules apply to Sponsor ballots by entities. For each balloting group, each such entity shall name one primary voting representative and, at the entity’s option, one alternate voting representative to the Sponsor. Only a ballot from one of these representatives shall be accepted. If ballots are received from other parties, they shall not be counted; if ballots are received from both the primary voting representative and the alternate voting representative, only the vote from the primary voting representative shall be counted.

Each primary and alternate voting representative can ballot for only one entity; no one representative can represent the interests of more than one entity. Each representative shall declare what entity he or she represents and that their voting shall be independent of any other entity.

In order to be a voting member in a particular Sponsor ballot, each entity’s representative shall declare that the interests of that entity are not knowingly represented by another member of the ballot body and that the entity is not knowingly funding directly or indirectly the participation of another person in that Sponsor ballot for the purposes of influencing the outcome of the vote. Any entity representative who cannot make such a declaration shall not be able to be a voting member in that particular Sponsor ballot.

It is desirable to have representation of the materially interested and affected parties when reviewing the balance of the balloting group. Sponsors shall ensure balance prior to conducting a Sponsor ballot. Balloting groups shall have at least five members to ensure adequate balance.

In the event that, through merger or acquisition or other similar event, an entity member of the IEEE-SA has its assets totally or substantially transferred to another entity, membership in the Sponsor ballot body may be transferred to the new entity, provided that the new entity is not already a member of the Sponsor ballot body.

### **5.4.2 Ballot invitations**

IEEE Standards balloting groups shall be formed by means of ballot invitations conducted by the IEEE Standards Balloting Center. A ballot invitation is sent to all parties known by the Sponsor to be interested in the subject matter of the proposed standard. Information about IEEE Standards Sponsor ballot invitations shall also be made available at the IEEE Standards website to allow additional interested parties the opportunity to participate.

Ballot invitations shall remain open for a period of no less than 15 days. Those who respond affirmatively to the invitation during the period in which the ballot invitation is open and who otherwise fulfill the criteria in both subclause 5.2.2.3 of the *IEEE-SA Standards Board Bylaws* and 5.4.1 shall become members of the balloting group for that proposed standard. If a ballot does not open within 6 months of the invitation close date, the ballot group will be considered invalid and the Sponsor shall conduct a new invitation. Once the ballot has begun, no changes shall be made to the membership of the balloting group.

### **5.4.3 Conduct of the standards balloting process**

When a proposed standard is ready for Sponsor balloting, a standards ballot shall be conducted by the Sponsor or Sponsor designee via the IEEE Standards Association balloting tools. The standards balloting process consists of Sponsor balloting group members casting votes, with or without accompanying comments, in one or more successive ballots until completion of the standards balloting process. Sponsor balloting group members shall submit votes and comments in a manner and in a format compatible with approved IEEE Standards Association balloting tools. Comments may be submitted against any normative or informative content of the ballot document, except for the Notice to Users section and the Sponsor Ballot Participant list.

#### **5.4.3.1 Ballot term**

Each ballot in the standards balloting process shall close at 11:59 p.m. ET<sup>4</sup> on the closing date specified on the ballot.

The Sponsor shall assess the return rate of the first ballot, where the return is the ratio of the sum of Sponsor balloting group members' *Approve*, *Do Not Approve*, and *Abstain* votes to the count of Sponsor balloting group members.

In the first ballot, if the ballot has not achieved a 75% return by the specified closing date, the ballot may be extended to close when a 75% return is received. This extension for receipt of a 75% return shall not be longer than 60 days.

#### **5.4.3.2 Voting in the ballot**

The ballot shall provide the following vote choices to Sponsor balloting group members:

- a) *Approve (Affirmative)*. This vote may be accompanied by comments suggesting corrections and improvements. All comments shall be considered; making a change to the proposed standard as a result of the comments is left to the discretion of the Sponsor.
- b) *Do Not Approve (Negative with comment)*. This vote must be accompanied by one or more specific objections with proposed resolution in sufficient detail so that the specific wording of the changes that will cause the *Do Not Approve* voter to change his or her vote to *Approve* can readily be

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<sup>4</sup>ET is the time in New York City, New York, USA.

determined. The Sponsor shall encourage the submission of comments with all *Do Not Approve* ballots.

Balloters who vote *Do Not Approve* shall be permitted to differentiate those comments that caused their *Do Not Approve* vote from other comments that they may wish to submit. Any comments that are explicitly identified not to be part of the *Do Not Approve* vote shall be treated as comments associated with an *Approve (Affirmative)* vote.

If no comments are submitted associated with the *Do Not Approve* vote, then the vote shall be counted in the total tally of votes as a *Do Not Approve (Negative without comment)*.

If i) all comments associated with a *Do Not Approve* vote are deemed by the Sponsor as out-of-scope and ii) the balloter is notified that the comment(s) are out-of-scope and such notifications are accompanied with specific rationale for such out-of-scope determination, then the vote may be counted in the total tally of votes as a *Do Not Approve (Negative without comment)*.

During a recirculation ballot, *Do Not Approve* voters may indicate acceptance of the response to any or all comments associated with their *Do Not Approve* vote. Each *Do Not Approve* voter shall be given an opportunity to review comment responses, determine if he or she is satisfied, either entirely or in part, and either to change his or her vote to *Approve*, to *Abstain*, or to retain his or her *Do Not Approve* vote.

- c) *Abstain*. This category is provided to allow for ballot returns from Sponsor balloting group members who do not wish to vote *Approve* or *Do Not Approve* because of conflict of interest, lack of expertise, or other reasons.

During a recirculation ballot, Sponsor balloting group members shall have an opportunity to cast votes or change their previously cast votes.

#### **5.4.3.3 Comments in the ballot**

The Sponsor shall consider all comments that are received by the close of the ballot. Comments received after the close of balloting will be provided to the Sponsor. The Sponsor shall acknowledge the receipt of these late comments to the initiator and take such action as the Sponsor deems appropriate.

The Sponsor shall make a reasonable attempt to resolve all *Do Not Approve* votes that are accompanied by comments. Comments that advocate changes in the proposed standard, whether technical or editorial, may be accepted, revised, or rejected.

Sponsors shall provide evidence of the consideration of each comment via approved IEEE Standards Association balloting tools.

Until the proposed standard has achieved 75% approval, comments can be based on any portion of the proposed standard. Comments not based on the proposed standard may be deemed out-of-scope of the standards balloting process by the Sponsor.

Once the proposed standard has achieved 75% approval, comments in subsequent ballots shall be based only on the changed portions of the balloted proposed standard, portions of the balloted proposed standard affected by the changes, or portions of the balloted proposed standard that are the subject of unresolved comments associated with *Do Not Approve* votes. If comments are not based on the above criteria, the comments may be deemed out-of-scope of the recirculation. Such comments need not be addressed in the current standards balloting process and may be considered for a future revision of the standard.

Comments addressing grammar, punctuation, and style, whether attached to an *Approve* or a *Do Not Approve* vote, may be referred to the publications editor for consideration during preparation for publication. It should be borne in mind that proposed standards are professionally edited prior to publication.

Comments received before the close of ballot from participants who are not in the Sponsor balloting group, including from the mandatory coordination entities, require acknowledgement sent to the commenter and presentation to the Sponsor comment resolution group for consideration. The Sponsor shall send an explanation of the disposition of the mandatory coordination comments to the commenter.

#### **5.4.3.4 Recirculation ballots**

Changes may be made in the proposed standard to resolve *Do Not Approve* votes that are accompanied by comments or for other reasons. All substantive changes made since the last balloted proposed standard shall be identified and recirculated to the Sponsor balloting group. All unresolved *Do Not Approve* votes with comments shall be recirculated to the Sponsor balloting group. The verbatim text of each comment, the name of the *Do Not Approve* voter, and a response by the Sponsor conducting the resolution of comments shall be included in the recirculation ballot package. Responses to comments that are not accepted verbatim shall include sufficient detail for Sponsor balloting group members to understand the rationale for rejection of the comment or revision of the change proposed by the commenter.

Further resolution efforts, including additional recirculation ballots, shall be required if *Do Not Approve* votes with new comments within the scope of the recirculation are submitted.

The Sponsor is not required to conduct a recirculation ballot solely for *Do Not Approve (Negative without comment)* votes.

#### **5.4.3.5 Completion of the standards balloting process and submittal to RevCom**

A minimum of 75% of those voting *Approve* or *Do Not Approve (Negative with comment)* must approve the draft in order to submit the ballot result to the IEEE-SA Standards Board. In the event that 30% or more of the returned ballots are *Abstentions*, the standards balloting process shall be considered invalid.

In the event that a 75% return cannot be obtained, the standards balloting process is considered to have failed and further disposition of the proposed standard shall be the responsibility of the Sponsor.

Once all required recirculations have been completed and 75% approval has been achieved, the IEEE requirements for consensus have been met. Efforts to resolve *Do Not Approve* votes may continue for a brief period; however, if such resolution is not possible in a timely manner, the Sponsor should forward the submittal to RevCom because the IEEE has an obligation to the majority to review and publish the proposed standard quickly.

Copies of all unresolved *Do Not Approve* votes, together with the reasons given by the *Do Not Approve* voters and the responses by the Sponsor, shall be included with the ballot results submitted to RevCom.

The Sponsor shall, if not included in a recirculation package, provide to the *Do Not Approve* voter and to RevCom an explanation why any comments associated with a *Do Not Approve* vote were not required to be recirculated. In order for a *Do Not Approve* vote to be changed to an *Approve* or *Abstain* vote, the Sponsor shall obtain and provide to RevCom written confirmation from each voter (by letter, fax, or electronic mail) that indicates concurrence with any change of his or her vote. Any *Do Not Approve* vote with comment that RevCom is asked to consider as a *Do Not Approve (Negative without comment)* shall be explained to RevCom.

Proposed standards receiving a significant number of unresolved *Do Not Approve* votes should be considered by the Sponsor for trial-use (see 5.7).

#### **5.4.3.6 Death or incapacity of a member of the Sponsor balloting group**

In the event that the IEEE Standards Department receives documentation of the death or incapacity of a member of a Sponsor balloting group by the closing date for the first ballot, that person shall be administratively removed from the Sponsor balloting group. In the event that such documentation is received following the closing date for the first ballot, the Sponsor balloting group member shall be deemed unavailable for balloting purposes and shall not be sent any further balloting material. Comments associated with *Do Not Approve* votes that are received before the Sponsor balloting group member became unavailable will be treated normally; note that confirmation of resolution is not expected. However, no tally shall be recalculated as a result of such a determination of unavailability, including ballots, abstention rate, return, or approval rate.

#### **5.4.3.7 Comments received as a result of a public review**

If a comment is received as a result of a public review process, that comment will be addressed by the Sponsor and a disposition returned to the commenter, along with information concerning their right of appeal.

#### **5.4.4 Mandatory coordination**

The Sponsor shall coordinate via circulation of drafts with the following entities:

- SCC14 (Standards Coordinating Committee on Quantities, Units, and Letter Symbols)
- IEEE Standards editorial staff

The Sponsor shall indicate the IEEE Registration Authority Committee (RAC) as a mandatory coordination entity when the draft is submitted for Sponsor ballot if

- The PAR indicates the possible registration of objects or numbers to be included in or used by the project;
- It becomes apparent through development of the draft that registration of objects or numbers will be included in or is used by the project;
- Requested by the RAC.

Comments from these entities shall be given appropriate consideration and response. At the time of project submittal to the IEEE-SA Standards Board for consideration for approval, the Sponsor shall supply the most recent coordination comments and indicate either acceptance or a request for a waiver (see 4.2.3.2).

#### **5.4.5 IEEE 100**

IEEE 100, *The Authoritative Dictionary of IEEE Standards Terms*, is a compendium of terms from both approved IEEE standards and non-IEEE sources. Terms given in the definitions clauses of approved IEEE standards shall be added to IEEE 100.

## **5.5 Submission of proposed standards to the IEEE-SA Standards Board**

The Sponsor shall submit all required documentation, including a complete copy of the last balloted draft, in accordance with the most current version of the IEEE-SA Standards Board Working Guide for Submittal of Proposed Standards, to the RevCom Administrator. This submittal shall be made prior to the submittal deadline specified. For the first three quarterly meetings of the year, the submittal deadline shall be at least 40 days before the meeting of the IEEE-SA Standards Board. For the last quarterly meeting of the year, the submittal deadline shall be at least 50 days before the meeting of the IEEE-SA Standards Board.

When the proposed standard is considered at a meeting of RevCom, it may be necessary for the Sponsor to be represented at that meeting, particularly if there were unresolved negative votes during the balloting (see 4.2.3.3 and 5.4.3.2) and/or if RevCom members submit negative comments prior to the RevCom meeting (see 4.2.3.4).

Approved IEEE standards may be submitted for adoption by other organizations (see also 5.6). As part of the adoption process, the adopting organization may receive comments on the technical content of the standard. These comments should be sent to the IEEE Standards Department. The comments will then be referred to the Sponsor for a response. Responses shall be directed to the commenter, with a copy sent to the IEEE Standards Department. If, in the opinion of the Sponsor, such comments warrant an amendment or revision to the approved IEEE standard, the Sponsor shall submit a PAR.

## **5.6 Adoption**

The IEEE is a focal point for various technologies and is willing to share its expertise with standards developers worldwide. One method for doing this is through adoption.

Adoption of IEEE standards by national, regional, and international standards organizations is encouraged. This adoption shall be a formal process that may include a reciprocal agreement between the IEEE and the organization adopting the IEEE standard. The following subclauses discuss the methods for processing adoption requests.

### **5.6.1 Process for adoption of IEEE Standards**

Arrangements for non-IEEE organizations to adopt IEEE standards are established in binding memoranda of understanding. These memoranda of understanding shall be executed by the Managing Director, Standards, and the responsible person in the other organization. IEEE staff shall have responsibility for negotiating the terms and conditions of these agreements. Requests for adoption of IEEE standards shall be forwarded to the Senior Administrator-Business Development, IEEE Standards Department.

Adopting organizations are encouraged to participate in future updates of the originating IEEE standard.

### **5.6.2 Process for adoption of non-IEEE Standards**

#### **5.6.2.1 Sponsor identification**

A Sponsor, as defined by subclause 5.2.2 of the *IEEE-SA Standards Board Bylaws*, shall assume responsibility for coordinating the adoption of a non-IEEE standard by the IEEE. The Sponsor shall be responsible for the standard upon adoption and until transfer to inactive status in accordance with all IEEE Standards policies and procedures.

### **5.6.2.2 Project initiation**

A Sponsor shall submit a PAR for the adoption of a non-IEEE standard to the IEEE-SA Standards Board to initiate an adoption. At the same time, the Sponsor shall contact the Senior Administrator-Business Development, IEEE Standards Department, to initiate copyright negotiations.

### **5.6.2.3 Draft development**

The adoption of a non-IEEE standard shall not include any revisions or changes to the actual document being adopted. However, IEEE exceptions addressing any differences between the IEEE adoption and the non-IEEE standard may be added to either the front matter of the document or in an annex.

### **5.6.2.4 Sponsor ballot**

The ballot shall include a cover letter explaining the reasons for the adoption, the options available to the balloters when casting their votes, and the provisions for consideration of comments by the developer of the non-IEEE standard. The Sponsor ballot shall meet the requirements outlined in 5.4.

Ballot comments and any Sponsor responses shall be forwarded to the developer of the non-IEEE standard for consideration.

## **5.7 Trial-Use standards**

Trial-Use standards are effective for not more than two years from the date of publication. In the absence of comments received in the trial period, the document is subject to adoption as a full-status standard by the IEEE-SA Standards Board upon recommendation of the Sponsor. Trial-Use standards shall contain a published scheduled cutoff date for receipt of comments and for further revision and approval action. This cutoff date shall be at least six months before the end of the trial-use period for the standard.

The approval period for a trial-use standard that is adopted as a full-status standard without change shall be for a total of ten years from the start of the trial-use period. If the trial-use period demonstrates that a trial-use standard has to undergo changes to become a full-status standard, a PAR for revision of an existing standard shall be prepared.

Trial-Use standards may result from one of the following:

- a) *At the Standards Development Level.* When a draft has been generated that generally satisfies the standards-developing group (i.e., subcommittee or working group) but needs input from a very broad constituency, such a draft may be processed as an IEEE Trial-Use Standard. For approval, such a draft requires a letter ballot of the Sponsor and approval by the IEEE-SA Standards Board as a trial-use standard.
- b) *At the Sponsor Level.* When a Sponsor is unable to resolve negative ballots to a satisfactory level, or uncertain aspects of the document justify preliminary distribution, it may consider submission of the draft to the IEEE-SA Standards Board as a trial-use standard.
- c) *At the IEEE-SA Standards Board Level.* When the IEEE-SA Standards Board cannot attain a suitable level of approval for a draft submitted for adoption as an IEEE Standard, it may decide to approve it as a trial-use standard.

## **5.8 Appeals**

### **5.8.1 Appeals pool**

The IEEE-SA Standards Board Chair shall select six to nine members of the IEEE-SA Standards Board to serve as the appeals pool.

The Past Chair of the IEEE-SA Standards Board shall serve as the SASB Vice Chair for Appeals. If the SASB Vice Chair for Appeals has a conflict regarding the subject matter of an appeal, the IEEE-SA Standards Board Chair shall appoint another member of the IEEE-SA Standards Board to serve as the SASB Vice Chair for Appeals for that particular appeal.

Members of the appeals pool will serve until a new appeals pool is appointed.

### **5.8.2 Appeal brief**

The appellant shall file a written appeal brief with the Secretary of the IEEE-SA Standards Board within 30 days after the date of notification of action of the IEEE-SA Standards Board or at any time with respect to inaction or following an appeal panel final decision from a subordinate committee. The appellant shall first have exhausted the appeals procedures of any relevant subordinate committees prior to filing an appeal with the IEEE-SA Standards Board. The appeal brief shall state the nature of the objection(s) including any adverse effects, the clause(s) of the procedures or the standard(s) that are at issue, actions or inaction that are at issue, and the specific remedial action(s) that would satisfy the appellant's concerns. Previous efforts, including all subordinate appeals, to resolve the objection(s) and the statement of outcome/decision of each, including a sequence of events of these efforts, shall be provided. The appellant shall include documentation supporting all statements in the appeal brief.

All issues regarding the action or inaction of the SASB shall be filed together in one appeal.

The Secretary shall send the appellant a written acknowledgment of receipt of the appeal brief within five days of such receipt. The IEEE-SA Standards Board Chair and the SASB Vice Chair for Appeals ("SASB Appeal Officers") shall review the appeal brief and determine within ten days of receipt of the appeal brief whether the appeal should be heard by the IEEE-SA Standards Board or should be referred to the IEEE-SA BOG or should be returned to the appellant with instructions to file the appeal as follows: (i) if the appeal deals with ethical issues, with the IEEE Ethics and Member Conduct Committee or IEEE-SA Standards Conduct Committee, as appropriate; (ii) if the appeal deals with technical issues, with the Sponsor of the body that made the decision; or (iii) if the appellant has not exhausted the appeals procedures of a relevant subordinate committee, then with such subordinate committee. If the IEEE-SA Standards Board Chair has a conflict regarding the subject matter of the appeal, the SASB Chair shall appoint a non-conflicted member of AdCom to serve as the second Appeal Officer.

If the SASB Appeal Officers determine that the IEEE-SA BOG should hear the appeal, the Secretary of the IEEE-SA Standards Board shall notify the appellant and the appellee (the chair of the committee at issue) of that fact within five days of receipt of the notice from the SASB Appeal Officers that the IEEE-SA BOG will be hearing the appeal. The appeal shall be referred to the IEEE-SA BOG and adjudicated according to IEEE-SA BOG processes (see subclause 4.4 of the *IEEE Standards Association Operations Manual*). If the IEEE-SA BOG hears an appeal that originated from a referral from the IEEE-SA Standards Board, the results of that appeal shall be reported to the Secretary of the IEEE-SA Standards Board.

If the SASB Appeal Officers determine that the IEEE-SA Standards Board should hear the appeal, the Secretary shall, within 20 days of receipt of the appeal brief, send the appellee a copy of the appeal brief and acknowledgment, and shall send the appellant and the appellee a written notice of the time and location of the hearing ("hearing notice") with the Appeal Panel.

The hearing with the Appeal Panel shall be scheduled at the location set for, and during the period of, the first IEEE-SA Standards Board meeting series that is at least 60 days after mailing of the hearing notice by the Secretary. New evidence meeting the requirements of 5.8.5 shall be provided at least two weeks before

the date of the Appeal Panel hearing.

### **5.8.3 Reply brief**

Within 45 days of receipt of the hearing notice, the appellee may send the appellant and Secretary a written reply brief, which specifically and explicitly addresses each allegation of fact in the appeal brief to the extent of the appellee's knowledge. If the appellee furnishes a reply brief, the brief shall include documentation supporting all statements contained in the reply brief.

### **5.8.4 Appeal Panel**

The IEEE-SA Standards Board Chair shall appoint from the appeals pool an Appeal Panel consisting of a chair and two other members who have not been directly involved in the matter in dispute, and who will not be materially or directly affected by any decisions made concerning the dispute ("Appeal Panel"). At least two members shall be acceptable to the appellant and at least two shall be acceptable to the appellee. If the parties to the appeal cannot agree on an Appeal Panel within a reasonable amount of time, the matter shall be referred to the IEEE-SA Standards Board, which shall appoint the members of the Appeal Panel. If an Appeal Panel member resigns or is removed from the Appeal Panel at any time before the appeal hearing, then the IEEE-SA Standards Board Chair shall appoint a replacement from the appeals pool. The replacement shall be subject to the acceptability criteria described above.

To ensure continuity of the appeals process, a specific Appeal Panel will remain impaneled until the publication of the Appeal Panel's final decision(s).

### **5.8.5 Conduct of the hearing**

The number of participating (i.e., speaking) representatives for each of the parties to the appeal is limited to a maximum of three (3). Other individuals may attend the hearing, but will not be permitted to address, or be addressed by, the Appeal Panel or either of the parties to the appeal at any time (including during the question and answer period). No recordings or verbatim transcriptions of the hearing are allowed, except by the IEEE-SA at its sole discretion.

The Appeal Panel may call an Executive Session before, during the course of, or following an appeal hearing to consider its action on a specific appeal.

No party to an appeal may communicate with any member of the Appeal Panel regarding the appeal while the matter is pending (i.e., from the time of filing of the appeal brief to finalization of the Appeal Panel decision).

The appellant has the burden of demonstrating adverse effects, improper action(s) or inaction, and the efficacy of the requested remedial action. Each party may adduce other pertinent arguments, and members of the Appeal Panel may address questions to individuals. The Appeal Panel shall only consider documentation included in the appeal brief and reply brief, unless

- a) Significant new evidence has come to light; and
- b) Such evidence reasonably was not available to the appellant or appellee, as appropriate, at the time of filing; and
- c) Such evidence was provided by the appellant or appellee, as appropriate, to the other parties as soon as it became available.

Prior to the hearing, the members of the Appeal Panel may convene to review the ground rules before the

participants appear.

### **5.8.6 Appeal Panel decision**

The Appeal Panel shall not consider technical or make findings with respect to ethical rules, but shall limit its consideration to procedural matters. The Appeal Panel shall render its decision, based upon majority vote of the Appeal Panel (Appeal Panel members shall vote to find in favor of the appellant or the appellee and shall not abstain), in writing within 30 days of the hearing, stating findings of fact and conclusions, with reasons therefore, based on a preponderance of the evidence. Consideration may be given to the following positions, among others, in formulating the decision:

- a) Finding for the appellant, remanding the action to the appellee, with a specific statement of the issues and facts in regard to which fair and equitable action was not taken;
- b) Finding against the appellant, with a specific statement of the facts that demonstrate that appellant failed to meet its burden to demonstrate that fair and equitable treatment of the appellant was not taken;
- c) Finding that new, substantive evidence has been introduced, and remanding the entire action to the appropriate committee for reconsideration.

The Appeal Panel Chair, through the Secretary, shall notify the appellant, the appellee, and members of the IEEE-SA Standards Board in writing of the decision of the Appeal Panel.

If an Appeal Panel member resigns or is removed after a hearing, then the remaining two members of the Appeal Panel may issue a decision if their decision is unanimous. If it is not unanimous, then the IEEE-SA Standards Board Chair shall appoint a replacement from the appeals pool and a re-hearing shall be conducted during the next IEEE-SA Standards Board meeting series.

### **5.8.7 Request for re-hearing of the Appeal Panel decision**

The decision of the Appeal Panel shall become final 30 days after it is issued, unless one of the parties files a written notice of request for re-hearing prior to that date with the Secretary, based on new evidence, provided such new evidence existed at the time of the hearing, but was not reasonably available to either the appellant or appellee, as appropriate, at the time of the hearing. In such case, the decision of the Appeal Panel shall be stayed pending review by the SASB Appeal Officers within 20 days of receipt of the written request. The review shall decide

- a) To adopt the report of the Appeal Panel, and thereby deny the request for re-hearing; or
- b) To direct the Appeal Panel to conduct a re-hearing; or
- c) At its discretion, to ask the IEEE-SA Standards Board to consider the matter.

Only one re-hearing can be conducted per appeal.

If the appeal was delegated to the IEEE-SA Standards Board by the IEEE-SA BOG, the decision shall also be sent to the Secretary of the IEEE-SA BOG. Appeals from a decision of the SASB Appeal Officers to deny the request for a re-hearing or from the decision of the Appeal Panel after a re-hearing shall be referred to the IEEE-SA BOG.

### **5.8.8 BOG appeal**

The SASSB Appeal Panel's final decision can be appealed to the IEEE-SA BOG in writing to the Secretary of the IEEE-SA BOG within 30 days after the Appeal Panel decision becomes final on the basis of a perceived error in the Appeal Panel process or of a perceived error in the Appeal Panel decision. Such appeal shall proceed in accordance with the *IEEE Standards Association Operations Manual*.

### **5.8.9 Informal settlement**

The IEEE-SA encourages settlement of disputes at any time if the settlement is consistent with the objectives of the IEEE-SA Policies and Procedures. Any settlement (to which the parties agree in writing) that is consistent with these P & P, or an agreement to withdraw the appeal, will terminate the appeal process.

## **6. Copyright, commercial terms and conditions, patents, and standard structure**

### **6.1 Copyright**

The IEEE owns the copyright of draft and approved IEEE standards (see 7.2 of the *IEEE-SA Standards Board Bylaws*).

Contributions made by participants in an IEEE-SA standards development meeting, whether the contributions are Published or not, are subject to the IEEE-SA Copyright Policy set forth in Clause 7 of the *IEEE-SA Standards Board Bylaws*.

#### **6.1.1 Project Authorization Request (PAR)**

At the time a PAR is submitted for approval, any known previously Published material intended for inclusion in the proposed IEEE standard shall be identified on the PAR. The Working Group Chair is responsible for obtaining written permission to use all previously Published material prior to the start of the initial ballot or prior to the next recirculation ballot if the excerpted material is inserted during comment resolution.

#### **6.1.2 Contributions from previously Published sources**

Participants in an IEEE Standards group who submit contributions containing excerpted content from previously Published sources shall notify the Chair of the need for permission, and should assist the Chair in obtaining that permission. Working Group Chairs are responsible for requesting and obtaining permission from external entities and for forwarding the completed response forms to the IEEE.

IEEE Permission Form Letters should be used to request and grant such permissions. Permission Form Letters to use material unchanged or modified are available online. Agreements that do not conform to the IEEE Permission Form Letters are possible, but such requests shall be in writing and shall be approved by IEEE-SA staff.

#### **6.1.3 Drafts of proposed IEEE standards**

All drafts shall be clearly labeled to reflect their status as unapproved.

##### **6.1.3.1 Draft copyright statements**

All drafts shall carry a copyright statement that:

- a) The document is an unapproved draft of a proposed IEEE standard
- b) The document is subject to change
- c) The document shall not be utilized for conformance/compliance purposes.

An IEEE draft standard may be distributed without charge to the participants for that IEEE standards development project. Other persons seeking permission to reproduce the document, in whole or in part, must obtain permission from the IEEE Standards Activities Department.

The *IEEE Standards Style Manual* provides example text to meet the above requirements.

## 6.2 Commercial terms and conditions

Provisions involving business relations between buyer and seller such as guarantees, warranties, and other commercial terms and conditions shall not be included in an IEEE standard. The appearance that a standard endorses any particular products, services, or companies shall be avoided. Therefore, it generally is not acceptable to include manufacturer lists, service provider lists, or similar material in the text of an IEEE standard. Where a sole source exists for essential equipment, materials, or services necessary to comply with or to determine compliance with the standard, it is permissible to supply the name and address of the source in a footnote as long as the words “or the equivalent” are added to the reference.

## 6.3 Patents

The patent policy is set forth in clause 6 of the *IEEE-SA Standards Board Bylaws* and is incorporated herein by reference.

Letters of Assurance are to be e-mailed, faxed, or mailed to the IEEE Standards Association (to the attention of the PatCom Administrator). The PatCom Administrator shall accept each Letter of Assurance that is complete and is received from an individual within the issuing organization whose title suggests authority for intellectual property and legal matters. The PatCom Administrator's duties with regard to Letters of Assurance shall be purely ministerial (i.e., without regard to or exercise of the PatCom Administrator's discretion regarding the content of the Letters of Assurance received). For each Accepted Letter of Assurance, the PatCom Administrator shall record the date on the signed Letter of Assurance and the date upon which the IEEE accepted such. The chair or the chair's delegate of an IEEE standards-developing working group or the chair of an IEEE standards Sponsor shall request a Letter of Assurance from Affiliates specifically excluded on an Accepted Letter of Assurance.

Upon written request, the IEEE will make available copies of any Accepted Letter of Assurance and its attachments. Letters received after 31 December 2006 shall be posted on the IEEE-SA website.

### 6.3.1 Public notice

The following notice shall appear in all draft and approved IEEE standards.

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA web site (see <http://standards.ieee.org/about/sasb/patcom/patents.html>). Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under these patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

### 6.3.2 Call for patents

The chair or the chair's delegate of an IEEE standards-developing working group or the chair of an IEEE standards Sponsor shall be responsible for informing the participants at a meeting that if any individual believes that Patent Claims might be Essential Patent Claims, that fact should be made known to the entire working group and duly recorded in the minutes of the working group meeting. This request shall occur at every standards-developing meeting once the PAR is approved by the IEEE-SA Standards Board.

The chair or the chair's delegate shall ask any patent holder or patent applicant of a Patent Claim that might be or become an Essential Patent Claim to complete and submit a Letter of Assurance in accordance with Clause 6 of the *IEEE-SA Standards Board Bylaws*. Information about the draft standard will be made available upon request.

### **6.3.3 Inactive standards**

All active IEEE standards are subject to periodic review for revision within ten years of IEEE-SA Standards Board approval or transfer to inactive status (see clauses 2.2 and 5.3 of the *IEEE-SA Standards Board Bylaws* and 9.2). Thus, any standard that incorporates patented technology may at some point in time be transferred to inactive status. Clause 6 of the *IEEE-SA Standards Board Bylaws* contains policies concerning the period of validity for any Letter of Assurance received from a party regarding an Essential Patent Claim.

### **6.3.4 Multiple Letters of Assurance and Blanket Letters of Assurance**

A Submitter may provide the IEEE with a Blanket Letter of Assurance for a specific [Proposed] IEEE Standard that covers all Essential Patent Claims the Submitter may currently or in the future have the ability to license. A Submitter may submit separate Letters of Assurance providing different licensing positions for different potential Essential Patent Claims.

Over time, a Submitter may also provide multiple assurances for a given Patent Claim by submitting multiple Letters of Assurance for such claim. For Essential Patent Claims, each such Letter of Assurance shall be binding on the Submitter. Each potential licensee may choose to invoke the terms of any applicable Letter of Assurance accepted by the IEEE, with one exception: If a Submitter has signed and submitted a Letter of Assurance specifically identifying a Patent Claim before or concurrently with signing and submitting a Blanket Letter of Assurance, the Blanket Letter of Assurance cannot be invoked as to the specified Patent Claim. (The Submitter, however, may submit a separate specific Letter of Assurance offering the Blanket Letter of Assurance terms for the specified Patent Claim.) The intention of this paragraph is to permit the Submitter to offer alternative assurances, and to permit the potential licensee to choose from among the alternative assurances offered.

If, after providing a Blanket Letter of Assurance, the Submitter acquires an Essential Patent Claim or a controlling interest in an entity that owns or controls an Essential Patent Claim, the existing Submitter's Blanket Letter of Assurance shall apply to such acquired Essential Patent Claims unless the acquired entity or the prior holder of the acquired Essential Patent Claim has submitted a Letter of Assurance before the acquisition. Any Blanket Letter of Assurance submitted by the acquired entity or the prior holder of the acquired Essential Patent Claim before the acquisition shall continue to apply to acquired Essential Patent Claims covered by such assurance (but not to the acquirer's Essential Patent Claims). Letters of Assurance covering specified Essential Patent Claims shall continue to apply to specified Essential Patent Claims, whether acquired in the acquisition or held by the acquirer before the acquisition, as provided in this Operations Manual. Nothing in this paragraph shall prevent an acquiring party from asking a seller of an acquired Essential Patent Claim or an acquired entity to submit additional Letters of Assurance before closing of the acquisition.

### **6.3.5 Applicability of Letters of Assurance to Amendments, Corrigenda, Editions, or Revisions**

An Accepted Letter of Assurance referencing an existing standard, amendment, corrigendum, edition, or revision will remain in force for the application of the Essential Patent Claim(s) to the technology specified in another amendment, corrigendum, edition, or revision of the same IEEE Standard but only if (a) the application of the technology required by the amendment, corrigendum, edition, or revision of the same IEEE Standard has not changed from its previous usage and (b) the same Essential Patent Claims covered by the prior Accepted Letter of Assurance remain Essential Patent Claims in the same IEEE Standard or revision thereof.

The Working Group Chair shall initiate a request for a new Letter of Assurance from a known Submitter when re-using portions of, or technologies specified in, an existing [Proposed] IEEE Standard, amendment, corrigendum, edition, or revision referenced in an Accepted Letter of Assurance in a different [Proposed] IEEE Standard.

## **6.4 IEEE standard document structure**

### **6.4.1 Normative and informative**

Normative material is information required to implement the standard and is therefore officially part of the standard. Informative material is provided for information only and is therefore not officially part of the standard.

### **6.4.2 Frontmatter**

The frontmatter of an IEEE standard is informative.

### **6.4.3 Notes and footnotes**

Notes and footnotes are informative except as noted in subclauses 6.4.4 and 6.4.5.

The *IEEE Standards Style Manual* provides further information about notes and footnotes.

### **6.4.4 Notes to tables and footnotes to tables**

A note to a table is informative. A footnote to a table is normative.

### **6.4.5 Notes to figures and footnotes to figures**

A note to a figure is informative. A footnote to a figure is normative.

### **6.4.6 Normative references**

Normative references are documents that contain additional material that is necessary to implement the standard. Thus, normative references are indispensable when applying the standard. Each normative reference shall be cited, and the role and relationship of each normative reference shall be explained in the body of the standard.

IEEE and other nationally or internationally recognized standards developing organizations (SDOs) are preferred as the source of normative references. Documents published by other organizations may be cited provided the document is publicly available at a cost that is not unreasonable at the date of publication of the IEEE standard. Documents that are cited as normative references, but that are developed by

organizations that are not nationally or internationally recognized SDOs, shall include the edition or date of publication in the citation. References to standards that are not active are permitted, provided such standards are publicly available at the date of publication of the IEEE standard. Draft standards may be used as normative references if they are unambiguously dated, readily available, and retrievable at the date of publication of the IEEE standard. Please consult with an IEEE Standards project editor if such inclusion is necessary.

References to specific clauses or subclauses, tables, and figures of another document shall include the date of said document.

#### **6.4.7 Shall, should, may, and can**

The word *shall* indicates mandatory requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted (*shall* equals *is required to*).

The word *should* indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required (*should* equals *is recommended that*).

The word *may* is used to indicate a course of action permissible within the limits of the standard (*may* equals *is permitted to*).

The word *can* is used for statements of possibility and capability, whether material, physical, or causal (*can* equals *is able to*).

## **7. IEEE participation on committees outside the IEEE**

### **7.1 IEEE representatives on ANSI Accredited Standards Committees (ASCs)**

#### **7.1.1 General**

The IEEE is represented on ASCs in which it has a substantial interest. This provides IEEE an opportunity to have a direct influence on the development of an American National Standard generated by the ASC. Positions have been allotted the IEEE as a substantially interested standards-developing organization.

#### **7.1.2 Assignment of positions**

The positions allotted to the IEEE are assigned by the IEEE-SA Standards Board to IEEE Societies having a substantial interest in the work of an ASC. The Societies reassign the positions to their substantially interested Technical Committees (TCs). In making these recommendations to ASCs where the IEEE is the secretariat and responsible for balance, the IEEE Societies shall attempt to achieve overall balance within the ASC through the selection of appropriate IEEE delegates.

#### **7.1.3 Appointment of IEEE representatives**

IEEE representatives on ASCs are appointed by the IEEE-SA Standards Board from nominations submitted by the appropriate Society or SCC that provides technical instruction to the representative.

#### **7.1.4 Instructions to IEEE representatives on ASCs**

##### **7.1.4.1 Source of instructions**

IEEE representatives and their alternates shall utilize the expertise of the members of their sponsoring group or TC to develop an IEEE position on proposed standards being considered by their ASC. They shall report at meetings of their Sponsor on the activities of their ASC, either in person or by a written report to be included in the minutes of the meeting, to inform the members of the work of the standards committee. They shall solicit comments and suggestions from interested members of their Sponsor in order to establish their position on projects under consideration, and to identify substantially interested members to whom they can turn for advice and recommendations on short notice. They shall work with the chair and the IEEE-SA Standards Board liaison representative of their Sponsor to ensure that they act in accordance with the consensus within the Sponsor. In the absence of instructions, they shall use their best judgment based on their experience as a member of their Sponsor to support the position with which they believe the membership would agree. All ballot actions taken by IEEE representatives shall be reported to the sponsoring committee. On all policy matters coming before this committee, the representative shall solicit instructions from the IEEE-SA Standards Board.

#### **7.1.5 Coordination within the IEEE**

Where there are two or more representatives, the IEEE-SA Standards Board will appoint a head of delegation, generally from the TC having the primary interest in the ASC. The head of delegation is responsible for supervising the work of the IEEE delegation, particularly the coordination of the positions of the representatives and alternates based on the instructions from their respective Sponsors. A unified position shall be developed to be supported unanimously by the IEEE delegation. In the case of letter ballots, various methods may be used to secure the unanimous vote:

- a) Each representative and alternate may send his or her completed ballot to the head of delegation who mails it in when a unanimous vote has been obtained.

- b) Each representative and alternate notifies the head of delegation how he or she intends to vote, or sends a copy of his or her executed ballot. The head of delegation notifies them to mail their ballots when the vote is unanimous.
- c) The head of delegation sends his or her recommended vote with reasons to the other members of the delegation with a deadline for returning objections. If no objections are received within the time limit, the head of delegation directs the members to execute their ballots in accordance with the recommendation.

Unanimity is required within the IEEE delegation because the members represent IEEE and not their individual Sponsors. Positions are assigned to the Sponsors in order to provide a recognized spokesperson from the Sponsor to facilitate coordination within the IEEE delegation. Therefore, if a representative on an ASC determines that a project within the committee might be of interest to an unrepresented Society or TC, he or she should notify the organization (generally through its IEEE-SA Standards Board liaison representative) and furnish requested information. Normally, temporary interest can be handled by an existing representative, but if the organization wishes the assignment of a position on the ASC, it should make a request to the Secretary of the IEEE-SA Standards Board and submit a nominee.

### **7.1.6 Balloting on IEEE standards in an ASC**

When an ASC ballots on an IEEE standard for adoption as an American National Standard, the IEEE delegation shall support the adoption of the IEEE standard without change, and vote in the affirmative on the ballot. If there are objections to the IEEE standard, the IEEE delegation shall point out that proposed changes require prior approval by the proprietary Sponsor. The IEEE delegation provides the liaison between the ASC and the IEEE Sponsor to resolve the objections. If resolution results in substantial changes, the revision shall be submitted to the IEEE-SA Standards Board for approval as a revision.

## **7.2 Category D Liaisons with the International Electrotechnical Commission (IEC)**

### **7.2.1 Definition of a Category D Liaison**

Category D Liaisons only apply to the International Electrotechnical Commission (IEC).

The ISO/IEC Directives, Part 1 define Category D Liaisons as organizations that make a technical contribution to and participate actively in the work of an IEC working group, maintenance team, or project team.

### **7.2.2 General Requirements for the Establishment of a Category D Liaison**

The IEEE Technical Committee requesting the Category D Liaison shall be multinational in objectives and standards development activities, with individual or entity membership.

The IEEE Technical Committee shall have a sufficient degree of representation within its defined area of competence; within a sector or subsector of the relevant technical or industrial field.

The IEEE Technical Committee shall be willing to make a contribution, in the form of comments to drafts, to the IEC as appropriate.

In order to be effective, the liaison relationship shall operate in both directions.

### **7.2.3 Establishing a Category D Liaison**

The IEEE Technical Committee shall work with appropriate IEEE-SA staff to draft a letter to the Secretary

of the relevant IEC Technical Committee/Subcommittee requesting a Category D liaison with a particular IEC Technical Committee/Subcommittee Working Group/Maintenance Team/Project Team. The letter shall include a rationale for the liaison relationship, as well as an indication of how the IEEE Technical Committee meets the general requirements given in Clause 7.2.2.

Once approval for a Category D Liaison has been granted by the IEC, the request for a Category D Liaison shall be forwarded to the IEEE-SA Standards Board for approval.

#### **7.2.4 Appointment of Category D Liaison Representatives**

Once approval for a Category D Liaison has been granted by the IEEE-SA Standards Board, the IEEE Technical Committee holding the liaison relationship shall appoint a representative and notify the appropriate IEEE-SA staff with the name and contact information of the representative.

#### **7.2.5 Participation on an IEC Working Group/Maintenance Team/Project Team**

A Category D Liaison representative has the right to participate as a member of the IEC Technical Committee/Subcommittee Working Group, Maintenance Team, or Project Team. This expert acts as the official representative of the IEEE Technical Committee from which he or she is appointed.

#### **7.2.6 Responsibilities of a Category D Liaison**

A Category D Liaison provides coordination and communication between the IEEE and the IEC on matters of mutual interest.

The Category D Liaison is responsible for protecting the intellectual property rights of IEEE standards and IEC standards. If the Category D Liaison wishes to introduce an IEEE document to an IEC Working Group/Maintenance Team/Project Team, the Category D Liaison shall contact the appropriate IEEE-SA staff for assistance.

The Category D Liaison assists the IEEE and the IEC in identifying possible candidates for submission as IEC/IEEE Dual Logo documents.

The Category D Liaison assists the IEEE in identifying future collaborative work, which may include documents that previously were either

- a) Developed jointly with the IEC, or
- b) Adopted in part by the IEC, or
- c) Adopted whole by the IEC.

The appropriate IEEE-SA staff shall be copied on all correspondence between the Category D Liaison and the IEC.

#### **7.2.7 Annual Reconfirmation of Category D Liaisons**

Every year, the appropriate IEEE-SA staff shall review the Category D Liaison list to verify which relationships remain active. The list of active Category D Liaisons shall then be placed on the March IEEE-SA Standards Board agenda for reconfirmation.

## 8. Publication

### 8.1 Standards

Upon approval by the IEEE-SA Standards Board, the standard shall be published as an IEEE standard. The Sponsor shall be notified of the approval in writing. Balloters with unresolved negative ballot comments shall be informed in writing of the approval and of their right to appeal.

#### 8.1.1 Errata

An erratum shall be prepared when an editorial error is found in an approved IEEE standard that represents a deviation from the standard as approved by the IEEE-SA Standards Board and that could result in misinterpretation of the standard. The date of the erratum and a statement that the erratum represents an editorial correction only shall appear.

#### 8.1.2 Amendments and corrigenda

Amendments and corrigenda are independent projects and are processed with separate PARs and balloted independently in accordance with the requirements of these procedures, including submission to the IEEE-SA Standards Board. A corrigendum may not extend the scope of the existing standard. An amendment may extend the scope of the existing standard, but if the proposed scope of the amendment PAR or the changes made in the draft amendment are found to be excessive by the IEEE-SA Standards Board, the Sponsor shall initiate a revision PAR to replace the amendment PAR.

All PARs for amendments and corrigenda shall include a project scope.

All amendments and corrigenda shall follow the style conventions for indicating changes defined in the *IEEE Standards Style Manual* (see clause 21 and annex C of that document).

Sponsor ballots of amendments and corrigenda shall also include access to the approved base standard and any approved amendments and corrigenda in order to provide sufficient information to the ballot group.

Up to three amendments can be approved before the standard shall be revised, unless the base standard has been approved within the past three years. In such a case, multiple amendments may be added until the base standard is three years old. After the three-year period, RevCom shall defer consideration of additional amendments or corrigenda until a revision or a two-year extension request is approved by the IEEE-SA Standards Board.

If, for any extenuating circumstances, an exception to these rules is required, the Sponsor shall take its request for a two-year extension to RevCom. A project plan outlining the rationale for the request, as well as a schedule for the revision, also shall be submitted. RevCom will review the request and make a recommendation to the IEEE-SA Standards Board.

During the two-year extension period, Sponsors can submit additional amendments and corrigenda for approval consideration. However, after this period, RevCom shall defer consideration of additional amendments or corrigenda until a revision is approved by the IEEE-SA Standards Board.

#### 8.1.3 Normative annexes

Normative annexes are official parts of the standard that are placed after the body of the standard for reasons of convenience or to create a hierarchical distinction. They are official (substantive) parts of the standard. A

normative annex shall be referred to as such (Annex A, Annex B, etc.) in its title, the table of contents, and the text.

#### **8.1.4 Informative annexes**

Informative annex texts shall be submitted with the proposed standard.

Informative annexes are included in a standard for information only and are not normative (substantive) parts of the standard. Standards writers should carefully consider the nature of material placed in informative annexes. The working group should also understand that informative annex material *is* considered part of the balloted document and, as such, shall be submitted to the IEEE-SA Standards Board for approval.

### **8.2 Publication of drafts**

Drafts of standards under development are normally distributed to members of the group involved in their generation (working group, subcommittee, etc.) for comment and letter ballot. The normal method for generating valid comments is to conduct a letter ballot of the working group or subcommittee.

All drafts, no matter how broad their circulation, shall be marked on the cover and elsewhere with the appropriate copyright and legal statements as defined in Clause 6.

When using the approved IEEE standards designation on a draft standard, the designation shall be structured, at a minimum, as “IEEE Pxxx/DXX,” where “xxx” represents the specific designation and “XX” represents the specific draft version of that document. The date of the draft shall also be included. Any additional information (such as the draft chapters) may be included at the discretion of the working group. The draft designation shall appear on each page of the draft in the same location for the sake of continuity (for example, the upper right corner, the bottom right corner, etc.).

In projects of broad interest, it is sometimes useful to collect a broader spectrum of comments than that available within the working entity involved in the development of the draft. Although the practice is deprecated by the IEEE-SA Standards Board, a small number of IEEE committees publish such drafts for distribution either as separate documents or in Society Transactions. Publication, including electronic, hard copy, or other forms of distribution, shall be carefully controlled to avoid misunderstandings regarding the status of and legal responsibility for such documents (N.B. these documents must not be mistakenly regarded as IEEE standards). The following conditions shall be met for such publication:

- a) The document shall be marked according to Clause 6.
- b) The draft can be authorized for publication only by the IEEE Standards Department. Committees wishing to have their drafts published and distributed shall have their Sponsor contact the IEEE Standards Department.

A preferred alternative to this procedure is to process the document as a trial-use standard (see 5.7).

## 9. Review of IEEE standards

### 9.1 Revision

The Sponsor should initiate revision of a standard whenever any of the material in the standard (including all amendments, corrigenda, etc.) becomes obsolete or incorrect, or if three or more amendments to a base standard exist three years after its approval. The Sponsor may initiate revision of a standard when new material becomes available and normal evaluation of need and feasibility indicates revision is warranted. The procedure for revising a standard is the same as for developing a new standard. A revision shall encompass the cumulative scope of the project (including all approved amendments and corrigenda).

In a revision, balloters may register objections to any part of the standard, as the revision process opens the entire document to comment. (The amendment process shall be used when new material and possibly corrections of a limited scope are proposed.)

The draft revision document submitted to the IEEE-SA Standards Board shall be a complete version of the revised document. A complete document shall include both the changed and the unchanged text, with balloted changes incorporated into the document.

When a standard is revised, its approved amendments and corrigenda shall be removed from active status as separate documents. Existing amendments and corrigenda shall either be integrated into the base document or eliminated as indicated in the PAR or determined by the Sponsor balloting process.

#### 9.1.1 American National Standards

For those IEEE Standards that are also American National Standards, the Sponsor should initiate a revision prior to the standard's fifth anniversary of approval as an American National Standard (ANS) in order to keep the standard from being withdrawn by ANSI. If this does not occur, the Sponsor can provide a rationale for extension to the RevCom Administrator, who will communicate the request to ANSI. The request for an extension of time shall be submitted to ANSI prior to the thirtieth day following the fifth anniversary of approval as an ANS. A request for extension shall provide the schedule of work that will lead to revision.

### 9.2 Removal from active status

Standards that are no longer useful or contain significant obsolete or erroneous information should be recommended for withdrawal from active status by the Sponsor. A recommendation for withdrawal from active status shall be supported by a ballot by the Sponsor (see 5.4) with a 50% return and at least a 75% approval.

Every IEEE Standard shall be subject to transfer to inactive status by the IEEE-SA Standards Board at the end of the calendar year that is ten years past its approval date (i.e., the standard will be labeled *Inactive* and reserved for historical reference).

A standard remains active until it is officially transferred to inactive status by the IEEE-SA Standards Board. When a standard is transferred to inactive status, its amendments and corrigenda are also transferred to inactive status.

## **10. Maintenance and modification of the *IEEE-SA Standards Board Operations Manual***

Proposed modifications to this manual may be submitted to the Secretary of the IEEE-SA Standards Board by members of the IEEE-SA Standards Board and any of its committees. This manual will be maintained by the IEEE Standards Department Staff, reviewed by ProCom, and approved by the IEEE-SA Standards Board.

This document shall be reviewed by legal counsel.

### **10.1 Interpretations of the *IEEE-SA Standards Board Operations Manual***

Requests for interpretations of this document shall be directed to the IEEE-SA Standards Board. The Secretary of the IEEE-SA Standards Board shall respond to the request within 30 days of receipt. Such response shall indicate either an interpretation or a specified time limit when such an interpretation will be forthcoming. The time limit shall be no longer than is reasonable to allow consideration of and recommendations on the issue by, for example, the Procedures Committee of the IEEE-SA Standards Board.

## EXHIBIT 23



August 5, 2011

Association for Competitive Technology  
1401 K Street, N.W.  
Suite 502  
Washington, D.C. 20005

Federal Trade Commission/Office of the Secretary  
600 Pennsylvania Avenue, N.W.  
Room H-135 (Annex X)  
Washington, DC 20580

Re: Patent Standards Workshop, Project No. P11-1204

Dear Commissioners:

I write today on behalf of the Association for Competitive Technology (“ACT”). ACT appreciates the opportunity to respond to the Federal Trade Commission’s Request for Comments and Announcement of Workshop on Standard-Setting Issues. ACT is the only U.S. organization focused on the needs of small business innovators. ACT advocates for an environment that inspires and rewards innovation, and helps its members leverage their intellectual assets to raise capital, create jobs, and continue innovating. ACT represents nearly 3,000 software developers, systems integrators, information technology (“IT”) consulting and training firms, and e-businesses from across the country.

Intellectual property rights are critical to all innovative businesses, but they tend to be particularly important to smaller entities. ACT thus welcomes the opportunity to comment on the FTC’s Patent Standards Workshop.

### **Introduction**

ACT was started by a small group of IT entrepreneurs with the objective of having their interests represented in government. ACT is primarily made up of small business innovators (“SBIs”). These SBIs largely have the same interests with respect to governments and regulators: access, flexibility, and consistency. One of ACT’s core principles is a consistent, predictable regulatory framework that provides SBIs flexibility in business models. Even when competing against other IT companies in the same market, IT companies often rely a diverse array of business models—conduct that exclusive rights are intended to facilitate.<sup>1</sup> Currently, there are four primary business models for software distribution and services: license software or sell subscriptions for software use, give away software to help sell hardware, give away software to generate service revenue, and give away software to sell advertisements and collect user data.<sup>2</sup> Within each of these business models, SBIs are competing with

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<sup>1</sup> JONATHAN ZUCK & BRADEN COX, ASS’N FOR COMPETITIVE TECH., UNDERSTANDING THE IT LOBBY: AN INSIDER’S GUIDE 2 (2008), available at <http://actonline.org/publications/files/rccpg61911proof.pdf>.

<sup>2</sup> *Id.* at 6.

larger diversified entities. Larger diversified entities compete using more than one of these business models.

For example, a larger diversified entity may perform research and development that enables it to patent a particular technology. This entity may then implement the patented technology in a product that it designs, manufactures, and licenses or sells to consumers. Because the entity owns the patents necessary to make, use, and sell the technology, it may prohibit others from practicing that technology or may license the technology out to others. These entities have research-and-development budgets and legal budgets that dwarf similar budgets at SBIs.

But many studies show that SBIs are often very effective innovators. Consequently, many SBIs are also patent owners; and in order for these SBIs to compete effectively with larger diversified entities, any patents they own must be protected. Standards can be a driver of innovation as they allow competing products and services offered by many companies, including SBIs, to interoperate within a technology sector. In the Information and Communication Technology ("ICT") sector, standards necessarily evolve at a rapid pace. Though some ACT members may be directly involved in developing these standards, others hesitate to participate because they are concerned that active participation in standards' development may negatively affect their intellectual property ("IP") rights. Standard setting organizations ("SSOs") that have IP policies that allow their members the flexibility of making a license commitment on reasonable and nondiscriminatory terms without onerous disclosure policies would help spur more SBIs to participate in standards' development.

SBIs are also consumers of IT solutions. In order to sustain any of the four IT business models discussed above, the SBI itself must use IT solutions. Many of these IT solutions implement standards. SSOs that have IP policies that allow their members the flexibility of making a license commitment on reasonable and nondiscriminatory terms without onerous disclosure policies provide the structure necessary to allow consumers of IT solutions that implement standards access to, flexibility with respect to, and consistency of these IT solutions.

The FTC Federal Register Notice discusses the issue of a patent hold-up "problem" at length and poses many questions that appear to be aimed at finding solutions to this "problem." From the perspective of ACT members, who are not convinced that there is a wide-spread patent hold-up problem, some of the solutions suggested by the questions would discourage risk taking and innovation, creating a less competitive environment within the ICT sector.

This letter focuses on why two of those proposed solutions would make the standards' development atmosphere more hostile for SBIs. The FTC suggests that *ex ante* disclosure of license terms will inject more certainty into the standards' development process, especially at the time alternative technologies are selected as part of a draft standard.<sup>3</sup> The FTC also suggests that *ex ante* joint negotiations of

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<sup>3</sup> FTC Request for Comments and Announcement of Workshop on Standard-Setting Issues, 76 Fed. Reg. 28036, 28038 (May 13, 2011) ("What has been the experience of those SSOs that

licensing terms may also reduce patent hold-up “problems.”<sup>4</sup> ACT members would oppose any policy requiring mandatory *ex ante* disclosure of licensing terms or mandatory joint negotiations of licensing terms because either policy would reduce an SBI’s ability to negotiate flexible license agreements tailored to the specific circumstances surrounding each deal.

#### **Mandatory Ex Ante Disclosure of Licensing Terms Will Discourage Participation by SBIs**

An important goal of an SBI is to both procure and protect its IP. Many SBIs expend research-and-development funds in hopes of patenting a technology that may eventually become essential to the implementation of a particular standard. If the SBI holds patents that contain claims essential to a standard being developed under a mandatory *ex ante* licensing terms disclosure policy, the SBI participating in the SSO would be required to disclose and commit to its rates for such claims and most restrictive licensing terms.<sup>5</sup>

The tendency of any company faced with this situation would likely be to disclose a rate higher than it would eventually settle on in order to give it room to negotiate. The unintended consequence, however, of this higher-than-acceptable rate could be that the “buyers,” the prospective implementers of the standard, would pressure the SBI to lower its rate. This collective pressure might be unreasonably coercive, especially when combined with a group decision to exclude the SBI’s patented technology from the standard. In the case of an SBI, unlike a larger diversified entity, the vast majority of its research-and-development efforts and funding may be almost entirely limited to its proposed contribution to the standard. This possibility of coercive pressure has been recognized by the Department of Justice and the FTC as a competition concern.<sup>6</sup>

require or allow *ex ante* disclosure of licensing terms? How frequently do *ex ante* disclosures of licensing terms occur? Why are *ex ante* disclosures of licensing terms not required or made?”).

<sup>4</sup> *Id.* (“How frequently do *ex ante* multilateral negotiations of licensing terms occur? How are such negotiations conducted?”).

<sup>5</sup> See, e.g., Letter from Thomas Barnett, Assistant Attorney Gen., U.S. Dep’t of Justice, to Robert Skitol, Esq., Drinker, Biddle & Reath, LLP 4 (Oct. 30, 2006), available at <http://www.justice.gov/atr/public/busreview/219380.htm> (“Under the proposed policy, each member of a working group must identify all patents or patent applications that he knows about and that he believes may become essential to the implementation of the future standard. In addition, working group members must declare the maximum royalty rates and most restrictive non-royalty terms that the VITA member company he or she represents will request for any such patent claims that are essential to implement the eventual standard.”).

<sup>6</sup> See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 53 (2007), available at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf> (“Nonetheless, joint *ex ante* licensing negotiations may raise competition concerns in some settings. For example, such negotiations might be unreasonable if there were no viable alternatives to a particular patented technology that is

**Mandatory *Ex Ante* Joint Negotiation of Licensing Terms Will Discourage Participation by SBIs**

For reasons similar to those discussed above, ACT would oppose a policy of mandatory joint negotiation of licensing terms. If the SBI holds patents that contain claims essential to a standard being developed under a policy mandating *ex ante* joint negotiation of licensing terms, the SBI participating in the SSO would be required to participate in a group negotiation, possibly being subject to unreasonably coercive collective pressure from prospective implementers. For SBIs that have invested heavily in their proposed contributions, the risk that this collective pressure during joint negotiations will undervalue their contributions will discourage their participation in the SSO's standards' development process.

**Neither "Solution" Takes the Manner in Which Patents are Licensed into Consideration**

In addition to the issues discussed above, neither the mandatory *ex ante* disclosure of licensing terms nor the joint negotiation of licensing terms takes into consideration the types of licenses that an SBI may ultimately negotiate with individual implementers of the standard. These could include cross-licenses; portfolio licenses; licenses that include other types of terms such as reciprocal licensing, defensive termination, and licenses for related, though not essential, technology; and business deals in general. SBIs also recognize that many larger more diversified companies have little interest in seeking licensees for their patented technology and would prefer to simply sell or license their products and use their patents defensively or to obtain freedom to operate. Patent policies that would require these larger companies to post specific license terms and negotiate joint license arrangements for all implementers not only poses new infringement risks for SBIs that would not have been present in the absence of such requirements but also increases the costs for SBIs to participate and implement standards. Both mandatory *ex ante* disclosure of licensing terms and joint negotiation of licensing terms require time and resources of an SBI in evaluating the license terms and participating in a joint negotiation that are better spent developing products and executing its business plan, especially where the ultimate business

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incorporated into a standard, the IP holder's market power was not enhanced by the standard, and all potential licensees refuse to license that particular patented technology except on agreed-upon licensing terms. In such circumstances, the *ex ante* negotiation among potential licensees does not preserve competition among technologies that existed during the development of the standard but may instead simply eliminate competition among the potential licensees for the patented technology."); Hill B. Wellford, Council to the Assistant Attorney Gen., Antitrust Div., U.S. Dep't of Justice, Address at the 2d Annual Seminar on IT Standardization and Intellectual Property China Electronics Standardization Institute: Antitrust Issues in Standard Setting (Mar. 29, 2007), available at <http://www.usdoj.gov/atr/public/speeches/222236.htm> ("SDO buyer-cartel behavior has the real potential to damage innovation incentives, and therefore is properly the subject of antitrust scrutiny.").

deal, if any is needed, between the larger company and the SBI likely will not arise out of these disclosures or negotiations.

**Conclusion**

For all of these reasons, ACT on behalf of its SBI members urges the FTC to affirmatively support the continued flexibility of relevant stakeholders to define the patent policy that best meets their needs and to respect the continued practice of bilateral negotiations over joint negotiations. Exclusive rights, like those conferred by patents, are designed and intended to permit entities to pursue a wide range of business models, and the models that prove to be most productive necessarily change rapidly as technology itself advances and evolves. Solutions that would tend to lock in approaches to standard setting that might seem optimal today may well become tomorrow's obstacles to continued innovation.

Sincerely,

Jonathan Zuck  
President

## EXHIBIT 24



[www.tiaonline.org](http://www.tiaonline.org)

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June 14, 2011  
Federal Trade Commission  
Office of the Secretary  
Room H-113 (Annex X)  
600 Pennsylvania Avenue, N.W.  
Washington, DC 20580

Re: *Federal Trade Commission Request for Comments and Announcement of Workshop on Standard-Setting Issues (Patent Standards Workshop, Project No. P11-1204)*

To the Federal Trade Commission:

The Telecommunications Industry Association (TIA) believes that patents are critical to driving innovation and economic growth, and appreciates the opportunity to respond to your Request for Comments (RFC) regarding the treatment of patented technology included in standards and the different ways that SSOs seek to minimize the risk of “patent hold-up”.<sup>1</sup>

## I. INTRODUCTION

TIA represents a large number of information and communications technology (ICT) companies and organizations in standards, government affairs, and market intelligence. A major function of TIA is the writing and maintenance of voluntary industry standards and specifications, as well as the formulation of technical positions for presentation on behalf of the United States in certain international standards fora. TIA is accredited by ANSI to develop voluntary industry standards for a wide variety of telecommunications products and sponsors

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<sup>1</sup> Request for Comments and Announcement of Workshop on Standard-Setting Issues, 76 Fed. Reg. 28036 (May 13, 2011) (RFC).

more than 70 standards formulating committees. These committees are made up of over 1,000 volunteer participants, including representatives from manufacturers of telecommunications equipment, service providers and end-users, including the government.

The member companies and other stakeholders participating in the efforts of these committees and sub-groups have produced more than 3,000 standards and technical papers that are used by companies and governments to produce interoperable products around the world. TIA also has a Standards and Intellectual Property Policy Committee (SIPC) that is focused on, among others, policy issues related to the ICT standardization system on a global basis.<sup>2</sup>

TIA is and has been a standards-setting organization (SSO) since its inception in 1988, and is one of the largest SSOs accredited by ANSI. TIA's standards development activities have both a national and global reach and impact. TIA is one of the founding partners and also serves as Secretariat for 3GPP2 (a consortium of five SSOs in the U.S., Japan, Korea, and China with more than 65 member companies) which is engaged in drafting future-oriented wireless communications standards.<sup>3</sup> TIA also is active in the formulation of United States positions on technical and policy issues, administering four International Secretariats and 16 U.S. Technical Advisory Groups (TAGs) to international technical standards committees at the International Electrotechnical Commission (IEC), and is the International Secretariat and US TAG Administrator for the International Organization for Standardization (ISO) Technical Committee (TC) 204 on Intelligent Transportation Systems.

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<sup>2</sup> TIA standards are available from IHS Inc. See <http://www.ihs.com/>.

<sup>3</sup> See 3GPP2, About 3GPP2, available at [http://www.3gpp2.org/Public\\_html/Misc/AboutHome.cfm](http://www.3gpp2.org/Public_html/Misc/AboutHome.cfm) (last visited May 26, 2011).

TIA's standards committees create consensus-based voluntary standards for numerous facets of the ICT industry, for use by both private sector interests and government, which fall within the purview of the RFC.<sup>4</sup> Among other things, TIA's standards committees develop protocols and interface standards relating to current U.S. Government technology priorities such as Smart Grid,<sup>5</sup> health care ICT,<sup>6</sup> and emergency communications infrastructure<sup>7</sup> in such areas as fiber optics, public and private interworking, telecommunications cable infrastructure, wireless and mobile communications, multimedia and VoIP access, as well as vehicular telematics.

TIA's association members and others come to TIA to develop standards that promote efficiency and interoperability, enhancing industry collaboration to solve market-driven demands and customer needs. This enables access to new technologies and markets, helps diffuse innovative solutions across the industry while maintaining respect for intellectual property rights and supporting incentives for companies to further invest in related R&D. TIA's process also creates opportunities for further competition among differentiated implementations and products, which provides stimulus for more innovation and choice for customers and users.

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<sup>4</sup> TIA publishes an annual report that includes the latest actions taken by each respective TIA engineering committee toward the development of standards for the advancement of global communications. See TIA, Standards & Technology Annual Report (September 2010), available at [http://tiaonline.org/standards/about/documents/StarReport\\_09-10.pdf](http://tiaonline.org/standards/about/documents/StarReport_09-10.pdf).

<sup>5</sup> TIA's TR-50 (Smart Device Communications) is responsible for the development and maintenance of access agnostic interface standards for the monitoring and bi-directional communication of events and information between smart devices and other devices, applications or networks. See <http://tr50.tiaonline.org>.

<sup>6</sup> TIA's TR-49 (Healthcare ICT) is responsible for development and maintenance of standards for the healthcare ICT applications which involve medical devices, network infrastructure, applications, and operations support. See <http://tr49.tiaonline.org>.

<sup>7</sup> Engineering Committee TR-8 formulates and maintains standards for private radio communications systems and equipment for both voice and data applications. TR-8 addresses all technical matters for systems and services, including definitions, interoperability, compatibility, and compliance requirements. The types of systems addressed by these standards include business and industrial dispatch applications, as well as public safety (such as police, ambulance and firefighting) applications. See <http://tr8.tiaonline.org>.

## II. THE FTC'S DEFINITION OF "PATENT HOLD-UP"

TIA is concerned by the use of the term "patent hold-up" by the FTC in the RFC, as well as the FTC's apparent presumption that "patent hold-up" is a systemic problem in connection with standard development. As an initial matter, TIA observes that it is unaware of a uniform definition of "patent hold-up." In the RFC, the FTC defines "patent hold-up" as a demand [by a patent owner] for higher royalties or other more costly licensing terms after the standard is implemented than could have been obtained before the standard was chosen.<sup>8</sup> TIA has never received any complaints regarding such "patent hold-up" and does not agree that "patent hold-up" is plaguing the information and telecommunications technology (ICT) standard development processes.

TIA believes that the FTC is presuming that "patent hold-up" is a widespread and fundamental problem, without considering the practical experiences of SSOs such as TIA. TIA's members are made up of companies with different business models relative to the implementation of standards compliant products yet participate in TIA under RAND terms.

TIA believes that this is because market dynamics drive the patent holder and individual licensees to a negotiated agreement reflecting a range of licensing terms that both can accept,<sup>9</sup> and that such outcomes occur in the vast majority of situations. TIA does not believe that "patent hold-up" occurs simply when two parties, in negotiating a bi-lateral agreement, disagree

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<sup>8</sup> RFC at 28036.

<sup>9</sup> Patent holders have incentives to seek reasonable licensing terms because they benefit from the greater adoption of the standard. In addition, most implementers who decide that they need to enter into a license typically do not want a license to just the patent holder's essential patent claims that read on a standard. The negotiation usually involves contributions from both sides and broader IPR considerations.

on licensing terms. Defined too broadly, many instances of innocent and fair activity on the part of patent holders could be mislabeled as “patent hold-up.”

TIA urges the FTC to view “patent hold-up” under a much narrower scope that reflects the realities of standards-related patent licensing as opposed to taking a more theoretical approach, and to thus limit “patent hold-up” to instances where the holdup is clearly due to intentional and deceptive conduct supported by substantial and substantive evidence. The FTC should make clear the distinction between “patent hold-up” and situations where a patent holder and an accused infringer simply do not agree on licensing terms.<sup>10</sup>

Governmental intervention to mandate a generic solution to address presumed “patent hold-up” is likely to generate more unanticipated negative consequences than the perceived problem.

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<sup>10</sup> See Comments of Michele K. Herman, *NIST Request for Information regarding the Effectiveness of Federal Agency Participation in Standardization in Select Technology Sectors*, (Mar. 4, 2011) at 3, available at [http://standards.gov/standards\\_gov/sos\\_rfi\\_docs/26\\_Herman\\_DWTLLP.pdf](http://standards.gov/standards_gov/sos_rfi_docs/26_Herman_DWTLLP.pdf).

### **III. TIA'S USE OF REASONABLE AND NON-DISCRIMINATORY (RAND) INTELLECTUAL PROPERTY RIGHTS POLICIES**

Market-driven open standards can help promote competition and innovation, and such standards are developed or ratified through a voluntary, open and consensus-based process. This process means a SSO typically includes/has an IPR policy pursuant to which patent holders make commitments to offer licenses to essential patented technology on reasonable and non-discriminatory (RAND) terms and conditions, with or without compensation.<sup>11</sup>

This type of IPR policy addresses implementers' need to access and use patented technology included in the standard; at the same time, patent holders preserve their rights in a way that encourages them to innovate and to contribute their innovative solutions to the standardization effort. RAND patent policies seek to provide this balance by helping to make that patented technology available to all on RAND terms and conditions. RAND commitments can and do prevent IPR holders from making the implementation of a standard difficult by

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<sup>11</sup> This is consistent with OMB Circular A-119, which states that voluntary, consensus standards "include provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties." OMB Circular A-119.

refusing to license or by seeking unreasonable or discriminatory fees after the industry has been locked into the standard.<sup>12</sup>

At TIA, the use of the Patent Holder Statement as contained in the TIA Engineering Manual<sup>13</sup> is mandatory for both members and non-members. This policy has been developed by – and is actively maintained by – TIA’s IPR Standing Committee. Among the Statement’s central provisions are the following:

“On behalf of the above Patent Holder, and being authorized by the Patent Holder to make such statements, the following is indicated:

With respect to any Essential Patent(s) necessary for the practice of any or all Normative portions of the above Reference Document as it exists on the date of submittal of this form, should such Reference Document be approved as a Standard.

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<sup>12</sup> Non-discriminatory does not necessarily mean identical. A RAND license that might be negotiated by a patent owner and standards implementers may not necessarily reflect exactly the same set of terms and conditions for each licensee. This is because other considerations (such as reciprocal cross-licensing) may be a factor. See American National Standards Institute, ANSI GSC-15 Contribution: ANSI Activities Related to IPR and Standards (August 12, 2010) at 10, available at <http://bit.ly/1NUXOh>. See also Brooks, Roger G. and Geradin, Damien, *Taking Contracts Seriously: The Meaning of the Voluntary Commitment to License Essential Patents on 'Fair and Reasonable' Terms* (March 12, 2010), at 8 available at <http://ssrn.com/abstract=1569498> (“Not all standard implementers seeking to obtain a license from a given essential patent holder will be similarly situated. Generally, a range of variables will traditionally be negotiated between licensors and licensees, all of which may be of appreciable value, such as cross-licensing, volume of licensed products, exhaustion of patent rights, technology transfer, technical support, upfront fees, jurisdiction, scope of license (e.g., products, territory, have made rights, etc.), possible product purchases, the formation of broader business relationships and cooperation, etc. Granting a license cannot be confused with selling a product at a standard price (which would be the royalty). Because licensors and licensees seek to exchange a potentially diverse assortment of ‘value’ (the royalties being just one possible elements of consideration), any interpretation of a FRAND commitment as ‘dictating or specifying a particular licensing result’ would prove a “Procrustean bed.”).

<sup>13</sup> TIA’s Engineering Manual provides for its Standards and Technology Department and Engineering Committees’ organization, rules for operation of its Engineering Committees, TIA’s IPR policies, rules for operation of its Technical Standards Subcommittee, and its legal guidelines. TIA, *TIA Engineering Manual* (Oct. 2009) available at <http://www.tiaonline.org/standards/procedures/manuals/engineering.cfm>.

“The undersigned Patent Holder states one of the following:

- a) A license under any Essential Patent(s), the license rights to which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory, without monetary compensation, and only to the extent necessary for the practice of any or all of the Normative portions of the above Reference Document for the field of use of practice of the Standard; OR
- b) A license under any Essential Patent(s), the license rights to which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory, which may include monetary compensation, and only to the extent necessary for the practice of any or all of the Normative portions of the above Reference Document for the field of use of practice of the Standard.

“Either Paragraph (a) or (b), whichever is selected above, may be modified below by marking one or both of the following:

- i. The commitment to license above selected will be made available only on a reciprocal basis. The term “reciprocal” means that the licensee is willing to license the licensor in compliance with either Paragraph (2a) or (2b) above as respects the practice of the above Reference Document.
- ii. The undersigned Patent Holder hereby limits its commitment to license under either Paragraph (2a) or (2b) above to the Essential Patent(s) identified by issuance and filing dates and numbers on Exhibit “A” attached hereto, and represents that Exhibit

“A” contains all the undersigned’s known licensable Essential Patent(s) rights, as of the date stated below, only to the extent necessary for the practice of any or all of the Normative portions of the above Reference Document. The undersigned Patent Holder undertakes to advise TIA of any licensable Essential Patent(s) rights of the undersigned which become known to the undersigned after this date and to notify TIA whether a license will be made available with respect thereto in accordance with the TIA IPR Policy. Nothing in this statement requires the undersigned Patent Holder to make a patent search.

“The statements contained in Paragraphs (2a) or (2b), if marked, along with any modifications selected above are irrevocable and shall be binding upon the undersigned. In the event the rights of the undersigned in and to the Essential Patent(s) subject to such commitments are assigned or transferred, the undersigned shall notify the assignee or transferee of the existence of such commitments.”

Based on lengthy experience in developing standards and knowledge of standards and patent policies globally, TIA has concluded that successful international standardization policies are marked by certain general characteristics. While this is not an exhaustive list, these patent policies: 1) apply to those directly participating in the technical standardization, 2) balance the interests of all stakeholders, 3) permit patent holders to obtain a Reasonable and Non-Discriminatory (RAND) (also sometime referred to as FRAND [Fair, Reasonable and Non-Discriminatory]) return on their innovation, 4) encourage bilateral negotiation of licensing terms

between licensor and licensee outside of the standardization process;<sup>14</sup> and, 5) provide for reciprocity when a license is offered to a licensee.

In addition, TIA does not believe there is a need to define RAND. RAND has been adopted by standards organizations as a flexible approach to the inclusion of patented intellectual property in consensus-based standards. The RAND framework has enabled industry participants to bilaterally negotiate effective license agreements that meet the specific needs of each licensee and licensor.

Further, the treatment of IPR is “especially important and delicate.”<sup>15</sup> Also, as the United States Government reported through a recent USPTO presentation to WIPO, there are more than 16,455 approved international standards, with about 1,800 more in the pipeline, and many thousands more adopted by informal industry associations, consortia and interest groups.<sup>16</sup> Most standards appear to function well, and in this regard, there have been very few disputes - particularly disputes resulting in litigation.<sup>17</sup> This suggests that the RAND framework is working and effective. Not only has RAND been proven to work, the fact that it is the most common model used across SSOs makes it easier for standards to be exchanged from one SSO to another. Changes to the current RAND framework, regardless of how well intentioned, could easily disrupt this framework and the flexibility and balance that has been achieved among the

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<sup>14</sup> See, e.g., Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1906 (2002).

<sup>15</sup> See, e.g., European Union, Modernising ICT Standardisation in the EU - The Way Forward (Mar. 7, 2009), available at [http://ec.europa.eu/enterprise/policies/european-standards/files/ict/policy/standards/whitepaper\\_en.pdf](http://ec.europa.eu/enterprise/policies/european-standards/files/ict/policy/standards/whitepaper_en.pdf).

<sup>16</sup> Statement of United States Patent and Trademark Office at meeting of World Intellectual Property Organization (WIPO), Standing Committee on the Law of Patents (March 25, 2009). See [http://www.ansi.org/news\\_publications/news\\_story.aspx?menuid=7&articleid=2166](http://www.ansi.org/news_publications/news_story.aspx?menuid=7&articleid=2166).

<sup>17</sup> TIA is not aware of any current patent-related litigation that is focused exclusively on proffered licensing terms for the essential claims reading on a standard. The few standards-related disputes that do exist typically reflect a bilateral dispute between two companies and include a number of additional IPR and commercial issues.

various stakeholders. Such imbalance could in turn result in unforeseen and unintended consequences.<sup>18</sup>

#### **IV. TIA SUPPORTS THE VOLUNTARY *EX ANTE* DISCLOSURE OF LICENSING TERMS**

TIA believes that mandating the *ex ante* disclosure of specific licensing terms within such standards bodies would have a chilling effect on participation, contributions and the resulting standards. Moreover, standards bodies and their constituents are in the best position to craft their own IPR policies to address their particular circumstances. While TIA does not require *ex ante* disclosure of licensing terms, TIA does not object if a TIA participant wishes to voluntarily disclose its terms. Moreover, licensing negotiations are between the licensee and licensor and are to be conducted outside of the TIA standardization process. *Ex ante* disclosure of one set of terms and conditions fails to recognize the diversity in standards, licensing arrangements, and business interactions. RAND based policies, however, recognize this diversity. For these reasons, and based on the lack of complaints of a “patent hold-up” throughout TIA’s history, TIA believes that RAND licensing commitments can and do provide adequate protection against “patent hold-up.”

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<sup>18</sup> This can include disincentives for patent holders to contribute their innovative technology to standardization activities, and also possibly encourage other countries to develop standards-related IPR policies that arguably seek to make foreign-held IPR available for free or at a very low cost.

## V. CONCLUSION

In summary, TIA believes:

- a. It is critical that ICT standardization be predicated upon policies that encourage the contribution of innovative and high-performance technologies to standardization efforts. These technologies often have proprietary intellectual property associated with them.
- b. Including such high-performance technologies in standards creates economic efficiencies in downstream product and service markets which often exceed any cost of licensing the technologies.
- c. By enabling innovators to obtain a reasonable return on their investment in research and development, the RAND framework encourages innovators to contribute technology for possible standardization and to re-invest in further research and development while balancing the needs of implementers to access the technology.

TIA appreciates consideration of the above policies, commends the FTC for recognizing the vital role that standardization activities play in innovation, and values the opportunity to provide input in response to the Request for Information.

Respectfully submitted,

**TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

By: \_\_\_\_\_

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June 14, 2011

## EXHIBIT 25



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June 14, 2011

Federal Trade Commission  
Office of the Secretary, Room H-113 (Annex X)  
600 Pennsylvania Avenue, NW  
Washington, DC 20580

Re: Patent Standards Workshop, Project No. P11-1204 (76 Fed. Reg. 28036)

Dear Commissioners:

I appreciate this opportunity to respond to the Federal Trade Commission (“FTC”) Request for Comments and Announcement of Workshop on Standard-Setting Issues dated May 13, 2011 (“RFC”). I am writing to urge the FTC to first consider what constitutes “patent hold-up” in the standards context for the purposes of the upcoming workshop before delving into (i) how standards setting organization (“SSO”) patent policies should be crafted to avoid patent hold-up, and (ii) how reasonable and non-discriminatory (“RAND”) patent license commitments should be interpreted and enforced against standards participants that have undertaken such commitments. Legal practitioners, academia, and business communities have proffered various definitions of patent hold-up based on differing scenarios involving patentee and implementer conduct, as well as the impact that patented technology may have on competition and consumers when incorporated into a standard. In order to obtain a meaningful outcome from the workshop, the definition of patent hold-up should be sufficiently narrow so that pro-competitive conduct that tends to drive innovation is not unintentionally curbed. In my view, the workshop should focus on those scenarios (i) that have resulted in *actual* harm to competition or consumers, and (ii) where there has been deceptive conduct that has subverted the standards process.

I am a partner with Davis Wright Tremaine LLP and I represent a number of SSOs as well as clients who participate as members in SSOs in connection with the development of technical standards. I am a patent attorney whose practice has focused on standards setting issues for more than a dozen years. I am also an adjunct professor at Seattle University School of Law where I teach a class on industry standards and open source software. I have held or currently hold leadership positions in standards committees in the American Bar Association, American Intellectual Property Law Association, and the Intellectual Property Owners Association. My comment offers background based on my personal observations and experience representing numerous clients in matters that involve patents and standards, and in particular, standards-related patent licensing issues.

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## I. Patented Technology Should Be Incorporated into Standards As a Way to Drive Innovation, Competition, and Economic Development

At the outset, I would like to highlight that the RFC does not mention the importance of patented technology to innovation, competition, and economic development in general.<sup>1</sup> Instead, the RFC starts from the premise that patents may hold up adoption of new technology, thereby harming competition and consumers. While it is possible that patents could hold up the adoption of new technology, such a view seems contrary to the views the United States has taken in the past.<sup>2</sup> Perhaps David J. Kappos, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office stated it best:

Innovation continues to be a principal driver of economic growth and job creation in the United States, and intellectual property (IP) delivers that innovation to the marketplace. We at the USPTO are proud of the role we play in serving America's innovators, and granting the patents and registering the trademarks they need to secure investment capital, build companies, and bring new products and services to the marketplace. The work we do at the USPTO directly contributes to strengthening our economy and creating jobs and helps move us toward the President's goal of winning the future by out-innovating our competitors.<sup>3</sup>

If patents help drive innovation, job creation, and so many other benefits generally, there is little reason to assume that patented technology incorporated into standards will have a contrary effect. Over the past decade or two, we have seen unprecedented growth in the information and communications technology ("ICT") industry. Much of this growth was brought about by ICT standards, many of which incorporate patented technology. Such ICT standards are adopted in

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<sup>1</sup> The RFC, however, does mention the importance of standards in promoting innovation: "[c]ollaborative standard setting plays an important role in the modern economy" and "[i]t can lead to innovation, better products and more competition." FTC Request for Comments and Announcement of Workshop on Standard-Setting Issues, 76 Fed. Reg. 28036, 28036 (May 13, 2011).

<sup>2</sup> See, e.g., President Barack Obama, Remarks by the President to the Chamber of Commerce at the U.S. Chamber of Commerce Headquarters, Wash. D.C. (Feb. 7, 2011) ("We're reforming our patent system so innovations can move more quickly to market."), available at <http://www.whitehouse.gov/the-press-office/2011/02/07/remarks-president-chamber-commerce>; The White House, A Strategy for American Innovation: Securing Our Economic Growth and Prosperity, App. B, <http://www.whitehouse.gov/innovation/strategy/appendix-b> (last visited June 13, 2011) ("Timely prosecuted, high-quality patents drive innovation and protect creativity.").

<sup>3</sup> *Budget Hearing - Patent and Trademark Office - Under Secretary of Commerce for Intellectual Property Before the H. Subcomm. on Commerce, Justice, Science, and Related Agencies, Comm. on Appropriations*, 112th Cong. (Mar. 2, 2011) (statement of David J. Kappos, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent & Trademark Office), available at [http://www.uspto.gov/news/speeches/2011/kappos\\_house\\_2012budget.jsp](http://www.uspto.gov/news/speeches/2011/kappos_house_2012budget.jsp).

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the marketplace and subsequently replaced with new ICT standards at staggering rates.<sup>4</sup> With more and more products and services being based on an ever-growing number of ICT standards, it is not surprising that there is a heightened focus on patent litigation involving standardized technology. Such litigation, however, should not cause us to develop policies that would discourage the use of patented technology in standards where, as here, we have significant market evidence that standards that incorporate patented technology have generated unprecedented innovation, numbers of new businesses and jobs, and economic growth consistent with U.S. Government objectives.<sup>5</sup>

In my view, the workshop inquiries should start with the assumption that patented technology incorporated in standards has been driving innovation not that patented technology in standards leads to patent hold-up.

## **II. Neither SSO Patent Policies nor RAND Enforcement Policies Should Be Established to Address Overly Broad Notions of Patent Hold-up**

The RFC sets out an array of questions pertaining to the potential patent hold-up of collaboratively developed standards, specifically asking which SSO policies and enforcement regimes could help to prevent hold-up. Before these questions may be answered, however, there should be a common understanding of the term “patent hold-up” and which specific scenarios of patentee and implementer conduct we are trying to address. As discussed above, we should also begin any discussion by first acknowledging that, in general, patented technology will help drive innovation and competition irrespective of whether or not it has been incorporated into a standard.

Some may view the inclusion of any patented technology in a standard as patent hold-up simply because an implementer may need to license the patented technology.<sup>6</sup> Others may consider the

<sup>4</sup> Consider the wireless evolution starting with 1G (e.g., TACS, TDMA, etc.), evolving to 2G (e.g., GSM, CDMA, etc.), then to 2.5G (e.g., GPRS, EDGE, etc.), then to 3G (e.g., E-EDGE, UMTS, EVOD, etc.), then to 3.5G (e.g., HSDPA, 802.16d, etc.), and finally to 4G (e.g., LTE, 802.16e, etc.).

<sup>5</sup> According to the Telecommunications Industry Association (“TIA”), global telecommunications spending amounted to \$4.1 trillion in 2010, up from \$2.7 trillion in 2004. Spending is predicted to reach \$5.3 trillion in 2014. TIA, Preview—2011 ICT Market Review & Forecast, Chapter 4: The Wireless Market, [http://www.tiaonline.org/market\\_intelligence/mrf/index\\_MRF\\_page\\_1.cfm](http://www.tiaonline.org/market_intelligence/mrf/index_MRF_page_1.cfm) (last visited June 13, 2011).

<sup>6</sup> SSO participants often simply opt for technology for which they are unaware of essential patent claims over technology for which they are aware of essential patent claims, even if those claims will be licensed freely. Many incorrectly believe that there will be no need to take licenses if no patents are disclosed or that licenses will be required when patents are disclosed. See, e.g., Posting of Brian Kahin to opensource.com Law Blog, <http://opensource.com/law/11/1/open-standards-and-royalty-problem> (Jan. 20, 2011) (“what most implementers and other users care about is not having to pay royalties or ask for permission”).

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inclusion of patented technology in a standard as constituting patent hold-up only when the patented technology is not licensed on a RAND basis. This may occur, for example, when a third party owns essential patent claims, has no commitment to license, and admittedly refuses to do so on RAND terms.<sup>7</sup> Still others focus on the specific results of including patented technology in a standard when defining patent hold-up; namely, does such inclusion harm competition or consumers?<sup>8</sup> For example, in theory, if patented technology can extract a higher royalty because it is included in a standard, will that higher royalty harm competition or consumers to such a degree that it constitutes patent hold-up?<sup>9</sup> In this example, some have argued that any ability to charge higher royalties regardless of actual effects constitutes patent hold-up while others have argued that there must be evidence that charging higher royalties has harmed competition, not just particular competitors in the context of a commercial dispute, or consumers who must pay more with fewer choices.<sup>10</sup> Finally, some focus on both the effects and the conduct of the parties involved.<sup>11</sup> In other words, patent hold-up occurs if the patentee has (i) failed to abide by the relevant SSO patent policy, (ii) intentionally deceived the SSO participants, and (iii) in doing so, harmed competition and/or consumers because the patentee is able to extract higher royalties after “lock in” as a result of its patented technology being incorporated into the standard.

The RFC defines “patent hold-up” as “a demand for higher royalties or other more costly licensing terms after the standard is implemented than could have been obtained before the

<sup>7</sup> See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 136 (Adam B. Jaffe et al. eds., 2001), available at <http://www.nber.org/books/jaff01-1> (“Blocking patents are especially common in the context of standard setting: once a standard is picked, any patents (or copyrights) necessary to comply with that standard become truly essential. If the standard becomes popular, each such patent can confer significant market power on its owner, and *the standard itself is subject to holdup if these patent holders are not somehow obligated to license their patents on reasonable terms.*”) (emphasis added).

<sup>8</sup> See, e.g., Joseph Farrell et al., *Standard Setting, Patents, and Holdup*, 74 ANTITRUST L.J. 603, 645 (2007) (“when a standard used in a fairly competitive industry is subject to *uniform* hold-up, direct buyers may bear little of the cost, which falls primarily on final consumers”) (emphasis in original).

<sup>9</sup> See, e.g., Mark A. Lemley & Carl Shapiro, *Symposium: Frontiers of Intellectual Property: Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1993 (2007) (“Such royalty overcharges act as a tax on new products incorporating the patented technology, thereby impeding rather than promoting innovation.”).

<sup>10</sup> See, e.g., Michele K. Herman, *Negotiating Standards-Related Patent Licenses: How the Deal is Done, Part I*, LANDSLIDE, Sept.–Oct. 2010, at 36, available at [http://www.dwt.com/portalresource/03-11\\_Herman\\_Landslide\\_part1.pdf](http://www.dwt.com/portalresource/03-11_Herman_Landslide_part1.pdf).

<sup>11</sup> See, e.g., Joseph Farrell et al., *Standard Setting, Patents, and Hold-up*, 74 ANTITRUST L.J. 603, 604 (2007) (“‘Bad’ behavior (such as deception) is not logically necessary for such inefficiency, but hold-up can powerfully reward deception and concealment. Emphasizing how parties may inefficiently seek hold-up power, Oliver Williamson famously described opportunism as ‘self-interest seeking with guile.’”).

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standard was chosen”<sup>12</sup> because the patentee can “demand a royalty that reflects not only the *ex ante* market value of the patented invention, but also added value associated with changes in the marketplace and investments made to implement the standard.”<sup>13</sup> I do not believe this is the best definition to use as the basis for the questions posed in the RFC. The definition of patent hold-up, in my view, should not be based exclusively on whether a patentee may charge a higher rate *ex post* (i.e., after the standard is adopted) for its patented technology than it could have charged *ex ante* (i.e., before the standard is adopted). Instead, the definition of patent hold-up should require either actual harm or at least “a dangerous probability”<sup>14</sup> of harm to competition or consumers.

An intentional failure to disclose essential patent claims on an *ex ante* basis might present such a probability of harm to competition or consumers, particularly when such patents are not made available for licensing on RAND terms. Even if one could establish that the patentee was charging higher rates, those higher rates might not result in harm to competition or consumers. For example, the standardized technology might be widely adopted resulting in a plethora of new product and service choices for consumers offered by numerous competitors. Indeed, there is overwhelming evidence in the marketplace, as discussed above, that ICT standards that incorporate patented technology are promoting competition, driving innovation, and creating more consumer choices than ever before. Further, commercial disputes that may result in harm to a competitor should not be viewed as harm to competition itself, especially given substantial market evidence to the contrary.<sup>15</sup>

The definition of patent hold-up should also take into account the conduct of both the patentee and the implementer. Because standards-essential patent claims are not licensed in isolation, it is necessary for parties to negotiate their own bilateral agreements irrespective of whether specific patents or license terms are disclosed to the SSO *ex ante*. What an SSO participant “knows” about potentially essential patent claims at the time it makes technology selections often depends on its own actions and risk aversions. If a patentee fails to disclose patents likely to be infringed

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<sup>12</sup> FTC Request for Comments and Announcement of Workshop on Standard-Setting Issues, 76 Fed. Reg. 28036, 28036 (May 13, 2011).

<sup>13</sup> *Id.*

<sup>14</sup> The concept of “a dangerous probability” is borrowed from the proof required by the plaintiff for an attempted monopolization claim under § 2 of the Sherman Act, which is: “(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power.” *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993). To prove a dangerous probability of monopolization in an attempt case “requires inquiry into the relevant product and geographic market and the defendant’s economic power in that market.” *Spectrum Sports*, 506 U.S. at 459.

<sup>15</sup> Letter from Michele Herman, Davis Wright Tremaine LLP, to Dr. Patrick Gallagher, Co-Chair, Sub-Comm. on Standards, Nat’l Sci. and Tech. Council, Dir., NIST 3–4 (Mar. 4, 2011), available at [http://standards.gov/sos\\_rfi\\_docs/26\\_Herman\\_DWTLLP.pdf](http://standards.gov/sos_rfi_docs/26_Herman_DWTLLP.pdf).

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by implementations of the standard, a participant has no reason to approach the patentee to assess whether the two parties might be able to negotiate mutually agreeable licensing terms on a bilateral basis. In this case, the patentee's conduct may be a relevant factor in determining whether or not the patents are being used to hold up implementers. If the patentee does disclose that it owns patents likely to be infringed by implementations of the standard and a participant chooses not to seek an *ex ante* license, a subsequent dispute over license terms would not be due to a deceptive manipulation of the process by the patentee. Such situations represent mere commercial disputes rather than patent hold-up.

SSO patent policies should be defined to promote a balanced playing field among all participants. SSO patent policies should not be defined to protect one class of participants at the expense of others. Similarly, enforcement of RAND license commitments should also balance the conduct of both parties if a dispute arises. For these reasons, the goals of the workshop should not be to suggest that SSO patent policies be defined to prevent all commercial disputes but rather to prevent patent hold-up that is based on the parties' conduct as well as the resulting harm to competition or consumers. SSO patent policies and RAND enforcement policies that are crafted to ensure that any patentee, regardless of the patentee's and implementer's conduct, cannot charge higher royalty rates *ex post*, irrespective of the effect those royalty rates would in fact have on competition or consumers, would unduly penalize those participants that invest in innovative technology for new standards, and would likely harm innovation, reduce competition, and diminish the other benefits derived from the inclusion of patented technology in standards.

### **III. Increased Transparency or Further Definition with Regard to Patent License Terms Is Not Needed nor Would It Be Useful in Preventing Hold-up**

Although the RFC defines patent hold-up broadly, focusing solely on the ability of the patentee to charge higher royalty rates *ex post*, it also describes the scenario that could, according to the FTC, harm competition or consumers. In this regard, the RFC appears to presume that "incomplete" disclosure<sup>16</sup> results in patent hold-up. The RFC explains that hold-up defined in this way, "can subvert the competitive process of choosing among technologies and undermine the integrity of standard-setting activities."<sup>17</sup> The RFC does not cite to any actual examples where a different technology would have been selected had the standards developers known that higher royalties would be charged. The stated harm, however, focuses on a scenario where standards developers were not aware of the royalties or other onerous license terms at the time they selected the patented technology to be included in the standard.

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<sup>16</sup> FTC Request for Comments and Announcement of Workshop on Standard-Setting Issues, 76 Fed. Reg. 28036, 28037 (May 13, 2011).

<sup>17</sup> *Id.* at 28036.

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The RFC also suggests how consumers might be harmed under this definition of patent hold-up: “[c]onsumers can be harmed if manufacturers are able to pass on higher costs resulting from hold-up.”<sup>18</sup> The RFC, however, does not identify any actual situations where consumers have paid higher prices because a patentee has been able to charge higher prices after having its patented technology included in the standard. Instead, the RFC seems to adopt the general view that consumers suffer harm in a scenario in which the standards developers did not know what royalties would be required when they incorporated the patented technology in the standard.

It appears then that the RFC is seeking input on how standards developers can determine the cost associated with implementing patented technologies at the time the standards developers are deciding whether or not to include the patented technology in the relevant standard. And to achieve this, the RFC appears to be soliciting information concerning (i) how to promote more specific disclosure of patents and license terms *ex ante*, and (ii) enforcement of what would be deemed *ex ante* terms, had such terms been disclosed.

Irrespective of the definition of patent hold-up, the notion that the disclosure of more licensing information and/or *ex ante* RAND licensing terms would in some way enable standards developers to more effectively choose when to include patented technology in a standard is at best a theoretical scenario. In practice, there is little use in knowing what a patentee will charge or what licensing terms will be mandated with respect to the patentee’s standards-essential patent claims. As discussed in the following sections, the value of and terms associated with essential patent claims are not meaningful in practice because such claims are rarely if ever licensed in isolation. For a number of business and other practical reasons, implementers generally do not negotiate *ex ante* licenses for the purpose of making such choices when they have an opportunity to do so. That said, there is no way to assess whether or not a participant would have made a different decision concerning the inclusion of patented technology if the participant was unaware that a patentee had essential patent claims. So, although SSOs should be free to adopt whatever patent policies meet the needs of their participants given the standards development process, technology area, and other factors, participants should at least be given an opportunity to negotiate bilateral *ex ante* RAND agreements with those patentees that believe they own essential patent claims.<sup>19</sup> The need for disclosure in this case should not disproportionately

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<sup>18</sup> *Id.*

<sup>19</sup> Disclosure of the relevant patentees is less important in a RAND-RF (RAND on royalty-free terms) SSO. When parties agree to a RAND-RF policy, in practice, they are in effect more interested in implementing the standard and promoting its widespread use than in generating patent revenue from the standardized technology. Generally, parties that license their portfolios to generate revenue as a significant part of their business model are reluctant to join RAND-RF SSOs because (i) they may be asked to carve out certain patent claims from their licenses, which could result in licensees seeking lower royalty rates for the portfolio package even though many of the patent claims are not essential; (ii) these carve outs could increase their overhead in that they would have to evaluate the essentiality of various claims; and (iii) such issues might protract their negotiations. In other words, such patentees

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burden patentees or discourage their participation in the SSO but should be limited to achieve this narrow objective; namely, ensuring that a participant (who is a prospective implementer) knows who to approach for *ex ante* licensing terms if the participant plans to use that information in making technology selections in the standards development process.

**A. *License Terms for Essential Patent Claims Are Not Useful Because Such Claims Are Not Licensed in Isolation***

The RFC questions whether RAND is too uncertain because the details of a license are not sufficiently defined by a RAND license commitment. Even if the precise terms for each standards-essential patent claim were disclosed to participants by a patentee at the time the patentee submitted a contribution to the standard, those terms would have little meaning for most prospective implementers. ICT products often include dozens if not hundreds of standards and other technology.<sup>20</sup> No one producing an ICT product would expect to negotiate a license with a patentee solely for the patentee's essential patent claims on one standard without also expecting to need licenses to additional patent claims that cover the ICT product or at least other related features. Even if an SSO were to define the license terms and conditions for all participant patentees, products that implement the standardized technology would almost certainly infringe other non-essential patent claims owned by the participant patentees. Moreover, if the defined terms and conditions for essential patent claims are royalty-free and unrestricted, the patentees could pursue licenses for their non-essential patent claims for fees that could offset what they had agreed to license on royalty-free and unrestricted terms.<sup>21</sup>

In practice, however, patentees and implementers do not separately license essential patent claims and non-essential patent claims; they license portfolios that include both, or enter cross-licenses that include both, or form business relationships that involve transactions that expressly

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only join SSOs with mandatory RAND-RF policies in exceptional circumstances when there are compelling business reasons to do so. In the end, most parties that join an SSO with a RAND-RF policy have no intention of enforcing essential or non-essential patent claims related to the relevant standard, but consider those patent claims very important for defensive purposes and for securing freedom to operate, i.e., through cross-licensing. Given these practical objectives, any patent disclosure requirements may seem overly burdensome to participants joining RAND-RF SSOs.

<sup>20</sup> Brad Biddle, Andrew White & Sean Woods, *How Many Standards in a Laptop? (And Other Empirical Questions)*, SOC. SCI. RES. NETWORK, Sept. 10, 2010, available at <http://ssrn.com/abstract=1619440> (identifying 251 interoperability standards that are embodied in or directly used by a laptop computer).

<sup>21</sup> Participation-based policies that are RAND-RF tend to include very narrow definitions of essential patent claims. In fact, some are so narrow it is conceivable that few if any patent claims would be subject to the RAND-RF policy at all. Narrowing the scope of applicable patent rights is not a surprising result for RAND-RF policies because members are going to be reluctant to commit to RF licensing up front when the scope of the standard may not yet be determined and the patentee may not yet know if it will support the resulting standard.

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or impliedly involve both essential and non-essential patent claims.<sup>22</sup> Furthermore, such arrangements typically are in regard to multiple standards, although they may be related within a given field of use. As a result, in the “real world,” disclosure of specific terms for essential patent claims is not useful to either party given that they will likely need to negotiate a broader more comprehensive agreement. Similarly, in the “real world,” defining RAND terms solely for essential patent claims is equally meaningless because it does not serve to provide additional certainty for most implementers.

***B. Specific Patent Information Is Rarely Used by Participants in Deciding Whether or Not to Incorporate Patented Technology in the Standard***

The point of a disclosure-based policy is to (i) procure a RAND license commitment for the essential patent claims in the disclosed patents, and (ii) permit participants to negotiate licenses *ex ante* so that they can be sure that the standard can be reasonably implemented once adopted. In practice, few parties negotiate licenses *ex ante* even when they know which parties have declared essential patent claims. This is because some implementers may have existing cross-licenses, portfolio licenses, or other business arrangements involving the same patent claims with the disclosing patentee and therefore have no need to negotiate a special standards-related patent license. Other implementers may rely on patent détente with the patentee that those implementers have no desire to disturb. Still other implementers may wish to take a wait-and-see approach to licensing as opposed to sharing their confidential business and technical plans early on with a potentially adverse party. In the end, however, virtually no implementers will negotiate an *ex ante* license for solely standards-essential patent claims for the reasons discussed above in Part III.A.<sup>23</sup>

While many companies have formalized standards participation policies that require employees to obtain internal approval before joining an SSO and contributing to that SSO, very few companies have a process for evaluating the risks associated with implementing standards. Yet some companies are calling for SSOs to adopt policies that require more patent licensing information to be made public, to provide more information about who is contributing to the standard, to provide more information about who is participating in the development of the

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<sup>22</sup> For example, a cross-licensing agreement between Samsung and Ericsson, analyzed during patent infringement litigation after the parties were unable to agree on renewal terms, included both essential and non-essential patent claims for WCDMA cellular technology. Michele K. Herman, *Negotiating Standards-Related Patent Licenses: How the Deal is Done, Part II*, LANDSLIDE, Nov.–Dec. 2010, at 33, available at [http://www.dwt.com/portalresource/03-11\\_Herman\\_Landslide\\_part2.pdf](http://www.dwt.com/portalresource/03-11_Herman_Landslide_part2.pdf). In another example, Motorola and Research in Motion reached a settlement agreement ending litigation regarding extension of a 2003 cross-licensing agreement that included patents that Motorola claimed were essential to the GSM, GPRS, and UMTS standards, as well as rights to several non-essential Motorola patents. *Id.*

<sup>23</sup> On occasion, some SSO participants will negotiate broader bilateral deals *ex ante*.

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standard, and to disclose more information about third party patent claims. These requests for SSOs to make more information available have nothing to do with the selection of technology during the standards development process because most companies do not even evaluate the information that is available before they implement a standard, nor do they enter into bilateral *ex ante* license negotiations as mentioned above. Rather, they want this information to assist with any *ex post* negotiation should they be caught implementing a standard without a license. In other words, the information is useful to such companies only after a dispute over terms has arisen, not for the selection of technology during standards development.<sup>24</sup>

The problems associated with requiring *ex ante* disclosure of specific patents, and especially license terms, have been discussed at length elsewhere in the literature.<sup>25</sup> And there is no evidence whatsoever that such disclosure has increased the number of bilateral *ex ante* negotiations between participants and the contributors of competing technical proposals. The idea that more transparency into the patent landscape and license terms that might be required to implement competing alternative proposals is needed to effectively prevent hold-up is simply a red herring intended to unnecessarily shift burdens to SSOs and standards technology innovators.

### **C. Nothing More Than Blanket Disclosure Statements and RAND License Commitments Are Needed to Avoid Patent Hold-up**

Notwithstanding the fact that few, if any, implementers will negotiate bilateral agreements with a patentee prior to choosing technology to be included in a standard or even before implementing the standard, it is nonetheless important that patentees and implementers have the opportunity to do so. It is impossible to conclude that an implementer would not have engaged in good faith negotiations if the implementer was unaware that a patentee believes its patents are likely to contain essential patent claims.

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<sup>24</sup> Under these circumstances, it is not appropriate for an infringer, who would have made no attempt during standards development to enter into bilateral *ex ante* negotiations or even prior to implementation to enter into bilateral *ex post* negotiations, to expect that the SSO and its participants would undertake such a heavy burden to disclose and collect such information. SSOs typically do not have the resources to efficiently track all feedback and contributions, particularly nominal ones. While most technical working groups do prepare summaries of their respective meetings, such summaries are often high level. Importantly, any public disclosure of the details of such meetings may breach confidentiality obligations or at a minimum chill participation in the working group.

<sup>25</sup> See, e.g., Michele K. Herman, *Negotiating Standards-Related Patent Licenses: How the Deal is Done, Part I*, LANDSLIDE, Sept.–Oct. 2010, at 38–39, available at [http://www.dwt.com/portalresource/03-11\\_Herman\\_Landslide\\_part1.pdf](http://www.dwt.com/portalresource/03-11_Herman_Landslide_part1.pdf); Damien Geradin et al., *The Complements Problem Within Standard Setting: Assessing the Evidence on Royalty Stacking*, 14 B.U.J. SCI. & TECH. L. 144, 171–73 (2008); Michele Herman & Tom Watson, *A Little Knowledge Can Hurt! The Quandary of a Balanced IPR Policy*, OPEN BAR, Mar. 2006, at 4–6, available at <http://www.open-bar.org/docs/AIPLA-Paper-FINAL.pdf>.

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Commercial disputes may arise over patented technology incorporated in standards, but without deceptive or bad faith conduct on the part of a participant, there is no subversion of the standards process. The only information needed from patentees participating in standards setting activities is whether they own patents likely to contain essential patent claims and whether they will make such essential patent claims available on RAND terms. Some SSOs refer to such disclosure statements as “blanket disclosures” because the patentee states that it believes it owns patents likely to contain essential patent claims but does not disclose the specific patents or patent applications. Typically, a blanket disclosure is accompanied with a license commitment, usually on RAND terms (with or without compensation) for all essential patent claims owned by the disclosing patentee. It is then up to each standards participant to seek more information as to whether or not that participant might be able to reach a mutually acceptable bilateral agreement with the patentee to the extent that the information would affect that participant’s support for the inclusion of the patented technology in the standard. As long as there is a RAND commitment and some identification of the patentees that have declared patents, the standards process is not subverted as a result of any missing information. SSO patent policies do not require further transparency into specific patents or licensing terms because standards participants and implementers will know who to contact to negotiate appropriate agreements on a bilateral basis. Decisions by standards participants and implementers not to do so may result in commercial disputes between the parties *ex post*, but those commercial disputes are not patent hold-up situations that an SSO or patentee should be expected to eliminate.

**D. *The Risks of Onerous Patent Policies Aimed at Preventing Patent Hold-up Outweigh the Usefulness of Information Obtained Through Compliance with Such Policies***

If SSOs mandate patent policies that require further transparency into specific patents or licensing terms, the risk is that technology innovators might refrain from participating in standards development. Technology innovators in the standards setting context usually include patentees with relevant technological expertise; these are the participants that likely have the most to offer during standards development. Without the contributions of such innovators, the standards development process may be inefficient and protracted and the resulting standard is more likely to be technically inferior and less successful in the marketplace.

There is also a practical concern that once specific terms are disclosed, the SSO participants will jointly engage in pressuring the patentee to make significant licensing concessions or will reject the patented technology altogether. Such negotiations could protract and complicate standards development, could raise antitrust concerns, and would not yield much useful information. As discussed above, even if the license terms for the standards-essential patent claims are jointly negotiated and approved, each individual implementer might still need to negotiate a bilateral agreement if one was not already in place with the patentee tailored to the needs of that

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implementer and patentee.<sup>26</sup> The specific terms for those essential patent claims from that particular patentee would not be a reliable measure of the overall costs to any specific implementer without a bilateral agreement that covered the parties' broader interests. While the competition concerns arising from joint negotiations may be mitigated through appropriate counseling from the parties' lawyers, it seems that there are few, if any, benefits from such proposals in contrast to their many identifiable risks.

#### **IV. RAND Enforcement Policies Should Not Ignore the Implementer's Conduct**

The RFC asks a number of questions concerning the enforcement of a RAND license commitment and its impact on patent hold-up. As discussed above, the inquiries should be based on an assumption that the inclusion of patented technology in standards will promote innovation, encourage competition, generate economic growth, and create jobs, not that the inclusion of patented technology in standards will result in patent hold-up. In this regard, RAND enforcement policies should not be defined to prevent a patentee from obtaining higher royalty rates under all circumstances but should focus on a more narrow set of conduct and market effects. If patent hold-up occurs when the patentee has (i) failed to abide by the relevant SSO patent policy, (ii) intentionally deceived the SSO participants, and (iii) in doing so, harmed competition and/or consumers because the patentee is able to extract higher royalties after "lock in" as a result of its patented technology being incorporated into the standard, then a RAND enforcement policy should come into effect. There are a number of legal and equitable doctrines that are available to adequately address the harm caused by a patentee's deceptive conduct.<sup>27</sup>

But where there has been no hold-up because the three criteria have not been satisfied, the patentee should be able to require that the infringer enter into a RAND license considering the specific facts and circumstances. Those facts and circumstances should not only take into account the patentee's conduct but also the infringer's conduct. For example, did the infringer participate in the standards development and have access to the patentee's patent declaration but fail to seek a license? Did the patentee offer the infringer a license that the infringer refused to negotiate in good faith? Did the patentee fail to declare that it owned patents likely to contain

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<sup>26</sup> Letter from Thomas O. Barnett, Assistant Attorney Gen., U.S. Dep't of Justice, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP (Oct. 30, 2006), *available at* <http://www.usdoj.gov/atr/public/busreview/219380.htm> ("[W]orking group members will not set actual licensing terms. The patent holder and each prospective licensee will negotiate separately, subject only to the restrictions imposed by the patent holder's unilateral declaration of its most restrictive terms.").

<sup>27</sup> These could include allegations of misrepresentation, fraud, breach of contract, promissory estoppel, waiver, patent misuse, monopolization and attempted monopolization under § 2 of the Sherman Act, unfair methods of competition under § 5 of the FTC Act, and similar state-based claims.

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essential patent claims, albeit not in bad faith, but nonetheless depriving the infringer of the opportunity to seek an *ex ante* agreement? These questions would need to be explored before making any judgment about the appropriate use of an injunction or the formulation of damages and future royalty payments.

#### V. Conclusion

In my view, the inquiry for the workshop should start with the assumption that patented technology in standards has been driving innovation not that patented technology in standards leads to patent hold-up. Then the term “patent hold-up” should be more precisely defined, taking into account both the conduct of the parties and market effects. Finally, the FTC should seek solutions to “real world” patent hold-up problems not merely theoretical patent hold-up problems. In this regard, it is important to consider SSO patent policies and RAND enforcement goals in the context of a narrowly defined patent hold-up scenario, and not as a means to prevent all potential *ex post* commercial disputes.

Again, I appreciate this opportunity to submit these comments for consideration in connection with the upcoming workshop as well as the opportunity to supplement them prior to the July 8, 2011, deadline with responses to the specific questions posed in the RFC.

Respectfully submitted,

Michele Herman  
Davis Wright Tremaine LLP

## EXHIBIT 26

**FEDERAL TRADE COMMISSION**

**Request for Comments and  
Announcement of Workshop on  
Standard-Setting Issues**

**Patent Standards Workshop, Project No. P11-1204**

**NOKIA RESPONSE**

**Nokia Corporation, Espoo, Finland**

Contact: Tim Frain, Director, Regulatory Affairs, Legal & Intellectual Property

July 8, 2011

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## Introduction and Background

### Nokia's standing

Nokia is the world leader in mobility, driving the transformation and growth of the converging internet and communications industries. For more than a decade Nokia has been the world's largest manufacturer and seller of cellular handsets. Prior to 2007 Nokia was also one of the largest manufacturers of cellular infrastructure equipment.

Every day, more than 1.3 billion people connect to one another with a Nokia device – from mobile phones to advanced smartphones and high-performance mobile computers. Today, Nokia is integrating its devices with innovative services through our dedicated online service store called Ovi ([www.ovi.com](http://www.ovi.com)), including music, maps and navigation, apps, email and more.

Nokia invests significantly in innovation in the standards arena, helping to create open standards that afford interoperability for the benefit of consumers and enabling products from different manufacturers to interoperate seamlessly. Interoperability tends to be taken for granted in the telecommunications field because generally it works extremely well. However its importance should not be under estimated.

In addition to being one of the largest manufacturers of standards-compliant products, Nokia was also one of the early pioneers in cellular technology. Since 1991 Nokia has invested over 46 billion Euros in research and development related to its products and Nokia has contributed a substantial number of its own innovations and technical solutions to industry standards bodies for use by all manufacturers of standards-compliant products.

Nokia expresses the views in this submission in its capacity of being, on the one hand, a leading innovator and owner of the largest telecoms patent portfolio in the world and, on the other hand, a leading implementer of probably hundreds of standards (including many hundreds of essential patents). In this dual capacity Nokia clearly has an interest to strike a careful balance between the perspectives of licensor and licensee. From this point of view, we believe that Nokia's thinking in this area generally reflects the middle ground in this debate.

### Patent rules in SSOs and the role of the Regulator

History and experience show that patent policies in standard-setting organisation (SSOs) are broadly functioning well especially in the telecoms arena. For over twenty years the telecoms industry has worked diligently to resolve many of the patent-related policy issues both within and even outside SSOs. Largely this has been successful and has had a positive impact on the market for the benefit of consumer.

Over recent years open standards have helped spur innovation and promote competition. The telecoms sector has seen new players enter the market successfully. Such market entries would not have been possible without the earlier innovative technology contributions of the industry

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incumbents and the fact that these early-contributors allowed their patents to be used by third parties on fair, reasonable and non-discriminatory (“(F)RAND”) terms<sup>1</sup>.

Admittedly, however, there are occasionally situations where self-regulation and private litigation have not yet been sufficient to address the more controversial issues around patents, standards and competition. There continues therefore to be an important overseeing role for the regulator.

While it is undoubtedly appropriate for the regulator to intervene in abusive patent hold-up situations, this has to be balanced against an overarching need to maintain an environment conducive to (F)RAND licensing - underpinned by a framework of effective legal measures available for patent-holders to seek redress against companies who refuse to take a license on (F)RAND terms but who instead choose to free-ride on patents owned by others.

Broad or unclear patent policies within SSOs can open the way for opportunistic and even overly-aggressive enforcement. This phenomenon is to some extent exacerbated by the fact that patents essential to a standard have increasingly become commonly tradable assets, even among non-practising entities (NPEs) whose business model is premised solely on enforcing patents, including standardised technology. From a policy and regulator’s perspective, the role and impact of NPEs on legitimate enterprise perhaps deserves more careful attention.

Increasingly courts of law around the world and especially in the United States are helping to apply, clarify and develop the relevant competition rules and interpretation of SSO patent policies, including the interpretation of (F)RAND, generally minimising the need for regulatory intervention.

Broadly speaking, Nokia would advocate a light-touch approach to regulation, with the regulator having a predominantly overseeing role, and we would caution against over-regulation in this space.

## 1. Disclosure of Patent Rights in an SSO

The patent disclosure rules are generally working well in the telecoms arena. The somewhat generic nature of SSO disclosure rules accommodates variations in legitimate ‘internal’ practices in different sectors and different firms, reflecting the “real world” environment.

While Nokia generally supports *timely* disclosure of essential patents, we have serious reservations about disclosing early-stage patent applications, especially pre-publication, when

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<sup>1</sup>The concept of “reasonable and non-discriminatory” (RAND) terms is known in Europe more usually as “fair, reasonable, and non-discriminatory” (FRAND) terms. The more generic expression (F)RAND is used in this paper to cover both.

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the contents would otherwise be confidential under the law, in order not to undermine international patenting programs.

The disclosure of published applications could be misleading as the scope of the patent will normally be amended (narrowed) during prosecution, for example in the light of prior art, and it is only possible both for patent owners and third parties to assess with confidence if claims are essential or potentially essential once the patent has been granted. This might even encourage drafting overly-broad patent applications in the first place to artificially inflate an essential patent portfolio with patents that turn out not to be essential at all. Overall, disclosure of pending applications could therefore result in greater uncertainty for third parties.

The non-disclosure of patent applications would generally only become a concern if the patent owner, after the grant of a patent that is essential, is in a position to create “hold-up” by refusing to license or by seeking license terms that are non-(F)RAND. However, this type of abuse of the hold-up power can be effectively prevented – without compromising confidentiality - by **requiring firms involved in developing the standard to make a general *ex ante* FRAND commitment, i.e. in the early stage of standardization.** With such a general commitment the essential patent holder would commit to be bound to (F)RAND in respect of any and all their patents and patent applications they generate that may become essential to the standard.

Policy makers need to be aware that disclosure policies can apply to huge numbers of patents, especially in the telecoms sector. Searching and identifying relevant patents is a non-trivial task requiring significant cost and resources. We would advocate that disclosure rules carefully reflect what is needed from a policy perspective to prevent hold-up without imposing an undue burden on firms, e.g. there should be no requirement to carry out a search.

The general *ex ante* (early phase) (F)RAND commitment proposed above would address situations where the patent holders have difficulties in identifying precisely which of their patents eventually will become essential. General *ex ante* (F)RAND commitments would also have the benefit of taking the focus away from the importance of rigorous disclosure of each and every patent, as third parties can rest assured that all essential patents will be subject to the (F)RAND commitment, whether disclosed or not.

Overall, Nokia believes it would be beneficial if the regulator were to encourage SSOs to require a general *ex ante* FRAND declaration, and subsequently patent-specific disclosures on a ‘good faith’ basis once patent holders have acquired a reasonable level of certainty that their patents are or will become essential, even in the context of royalty-free (RF) standards to avoid subsequent confusion (e.g. in the case of transfer of ownership of relevant patents – see further discussion below). SSOs should also ensure that patent disclosures and licensing declarations are publicly visible to everyone.

In relation to non-disclosure and the question of deceptive conduct, it is difficult to prescribe generic rules and, in our view, it is better for this always to be assessed on a case-by-case basis having regard to the particular circumstances. Usually, if a firm has made a (F)RAND commitment, makes good-faith disclosures of essential patents and adheres to its (F)RAND obligations in its licensing practice, then there should be no case for making an ambush claim.



Generally speaking, the regulator should exercise extreme caution in pursuing an ambush claim unless there is clear and compelling evidence of deceptive conduct and actual harm. It is important for the industry and for individual firms who will inherently be exposed to generating standards-related patents, to know and to be reassured that the authorities would not normally intervene except in cases of clear abuse.

In summary, it would be beneficial for SSOs to require a general *ex ante* (F)RAND declaration, and subsequently patent-specific disclosures on a 'good faith' basis once patent holders have acquired a reasonable level of certainty that their patents are essential.

## **2. The (F)RAND Licensing Commitment**

Especially for complex standards as in telecoms, Nokia believes that (F)RAND is the only workable solution to prevent patent hold up. Broadly speaking, the (F)RAND regime is functioning well – not only for Nokia's benefit as an industry participant but also for the success of cellular standards as a whole.

The courts in the United States and in other countries will continue to play an important role in interpreting (F)RAND in individual cases, and there does not appear to be any compelling or urgent need for regulator intervention except in cases of clear abuse.

### **Injunctions**

It is important to maintain a system where a firm seeking to license its patents on (F)RAND terms can get an injunction against an unwilling firm who is blatantly free-riding on patents owned by third parties, while at the same time recognising that abusive use of injunctions against a willing prospective licensee may necessitate regulatory intervention by authorities unless the court system shows itself capable to deal with the issue effectively from a policy perspective.

### **Transfer of patent ownership**

This is an example of an area where SSO patent policies are not fully effective, not least because some participants may divest their patents possibly circumventing their (F)RAND obligations.

To avoid potential abuse and the opportunity simply to by-pass a (F)RAND commitment made by a predecessor in title, Nokia believes it would be valuable for the regulator to clarify that the (F)RAND commitment made to an SSO should remain in force and be conveyed with the patent if ownership (or exclusive right to grant licences) of an essential patent/application is transferred, when the original owner of that patent has made a (F)RAND – including a royalty free (RF) - commitment to an SSO.

Also, there is a growing and, as yet, unresolved debate in the context of SSOs which do not have a disclosure policy/practice, about how to identify that there is a (F)RAND commitment attaching



to relevant essential (but unidentified) patents if their ownership should change. The proposal above for a generic *ex ante* (F)RAND declaration would help resolve this problem.

#### **Divisionals and continuations**

In the case of divisional and continuation patents/applications, where a (F)RAND commitment is made on the parent patent/application, the (F)RAND commitment should also apply automatically to the divisional/continuation unless expressly excluded by the patent owner at an early stage of the standardization process.

In summary, (F)RAND is the only workable solution in telecoms to prevent patent hold-up. The (F)RAND commitment should remain in force and be conveyed with the patent if ownership (or exclusive licence) of an essential patent/application is transferred. The (F)RAND commitment should also apply automatically to divisional and continuation applications unless expressly excluded by the patent owner at an early stage in the standardisation process.

### **3. Ex ante Disclosure and/or Negotiation of Licensing Terms**

*Ex ante* disclosure of (most restrictive) licensing terms is not well suited to the telecoms environment, which is often characterized by complex, dynamic standards having broad technical scope, involving huge numbers of technology contributions and long evolution cycles over many years. It is simply not possible to determine a meaningful value/price long before it is known what kind of products will eventually implement the standard.

Traditionally, *ex ante* disclosure of license terms has focussed on revealing a licensor's own individual most restrictive terms (e.g. maximum royalty rates), so that if there is wide enough participation and all (or most) licensors disclose their rates, it could in theory be possible simply to add up all the individual rates and calculate an expected aggregated rate for the standardised technology in question.

Practical experience of trying to use *ex ante* disclosure of license terms in the telecoms environment shows that when a lot of individual rates are aggregated, the cumulative figure can turn out to be extremely high and appear anything but commercially viable. The problem is exacerbated as the number of licensors grows and more individual rates have to be aggregated.

In short, *ex ante* disclosure of individual licence terms in complex, early-stage telecoms standards can end up being somewhat counter-productive, in that it risks undermining commercial confidence in whole technology platforms that would otherwise be selected.

From the perspective of complex technology standards it would be significantly more useful for licensors to disclose *ex ante* what they regard as the maximum commercially viable **aggregate rate** for a given standard, rather than merely disclosing their own individual rates.

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This ‘top-down’ approach has the advantage that it puts into the public domain an array of data points about anticipated maximum aggregate royalty rates from informed actors, thus providing extremely valuable (and reliable) information for those interested in implementing the standard to better understand the likely market-entry costs attributable to patents. The more licensors who participate, the more data points there will be. Such information would be particularly useful for potential new entrants and prospective licensees generally, whose primary concern is the aggregated cost reservation that they would need to make for obtaining essential patent licenses.

*Ex ante* disclosure of aggregate rates is not about imposing - or trying to impose - any kind of royalty cap, express or implied. It is merely a licensor expressing a unilateral view of what a commercially viable cumulative royalty might be. Actual royalties remain to be negotiated bilaterally in the normal way.

Another potential problem with *ex-ante* disclosure of individual maximum license terms is that it inherently induces firms to announce inflated royalties so as not to undermine the negotiation position in bilateral negotiations. There is the danger that some firms will argue that their disclosed terms have been “approved” by the SSO members whether or not they are truly (F)RAND compliant. In this sense the *ex ante* process is open to abuse as a sort of rubber-stamping exercise for non-(F)RAND terms. This would have an anticompetitive effect of unjustly increasing the price of patent licences. Furthermore, there is no correction mechanism available where third parties could “oppose” disclosed rates and it may even make it more difficult for a potential licensee to argue later that disclosed rates are not (F)RAND-compliant.

To safeguard against *ex ante* disclosure of most restrictive licensing terms being abused to massage the value of essential patents, Nokia would welcome the regulator taking steps to emphasise and explain the difference from an economics perspective between *ex ante value* and *ex ante disclosure of maximum license terms*, noting that the latter is merely a unilateral aspiration of maximum value, not evidence of actual value. Put simply, disclosing individual license terms *ex ante* does not mean or guarantee that those terms are (F)RAND-compliant.

In summary, *ex ante* disclosure of individual licensing terms is not well suited to the telecoms environment, where it would be more useful for licensors to disclose *ex ante* what they regard as the **maximum commercially viable aggregate rate** for a given standard. In any case, the regulator could usefully do more to emphasise the difference between *ex ante value* and *ex ante disclosure of maximum license terms*, noting that the latter is merely a unilateral aspiration of maximum value, not evidence of actual value.